



# Part 2 Non-Statutory (Explanatory) Section

# Part 2 Non-Statutory (Explanatory) Section

## 2.1 INTRODUCTION AND PURPOSE

This non-statutory (explanatory) section constitutes Part 2 of the proposed Structure Plan for the Whitford Activity Centre. The WACSP has been prepared for the centre to fulfil requirements of SPP 4.2 and the Scheme. The Structure Plan provides a framework for future development and subdivision applications.

The Structure Plan will be used by the WAPC, the Department of Planning, City of Joondalup, State Government agencies, landowners and the local community to inform further detailed planning and provide certainty about future development in the Whitford Activity Centre.

The Structure Plan comprises a Part 1 Statutory Planning Section and a Part 2 Non-Statutory (Explanatory) Section and Technical Appendices.

### 2.1.1 PART 1 STATUTORY PLANNING SECTION

Part 1 Statutory Planning Section sets out the provisions that apply to the Structure Plan area as well as specific provisions for the 4 districts created within the centre.

### 2.1.2 PART 2 Non-Statutory (EXPLANATORY) SECTION

Part 2 Non-Statutory (Explanatory) Section provides supporting information and explanation as background to the Part 1 provisions. The content and format of Part 2 responds to the requirements of the Structure Plan Preparation Guidelines (WAPC August 2012), the Model Centre Framework and SPP 4.2. General site and context conditions are described followed by the opportunities, challenges, vision and intent of the Structure Plan and then chapters detailing Model Centre Framework considerations including Centre context, Movement, Activity (land use), Urban form and Resource conservation. These chapters describe the existing and proposed situation at the centre on a 'compare and contrast' basis, looking primarily at the centre as a whole and then district by district as applicable.

## 2.2 LAND DESCRIPTION

### 2.2.1 LOCATION

Whitford Activity Centre is located within the City of Joondalup in the North-West Sub-Region of metropolitan Perth, approximately 20km north-west of Perth CBD, 7km south of Joondalup CBD and 3.5km west of Whitfords Train Station. The centre is sited west of Marmion Avenue and south of Whitford Avenue, on the dune ridge, 2km inland from the Indian Ocean and is afforded views to the coast.



Figure 1. Regional Context

## 2.2.2 BOUNDARY AND AREA

### Proposed Boundary

A boundary for the Whitford Activity Centre is proposed in accordance with principles set out in section 6.3.1 of the SPP 4.2.

The purpose of the boundary is to:

- Identify the extent of applicability of the Structure Plan and policy.
- Estimate the growth potential and land use mix of the centre.
- Manage the interface between scaled development and adjacent land.

The proposed boundary, indicated in Figure 2, includes Westfield Whitford City Shopping Centre, bulky goods retailers along Endeavour Road, and community facilities adjacent to Marmion Avenue within its extent. The northern and eastern boundaries are defined respectively by Whitfords Avenue and Marmion Avenue. These roads form natural boundaries to the centre due to their function in the road hierarchy. St Mark's Anglican Community School and community facilities along Endeavour Road have been included to the western end of the centre as they serve as key activity drivers within the Whitford Activity Centre and broader community. In addition, residential and mixed-use properties (to their rear boundaries) along the south side of Banks Avenue have also been included to enable Banks Avenue to become an integrated part of the centre; and to provide an enhanced transition to adjacent residential development to the south.

The area covered by the Structure Plan is 42.82 hectares (ha) as indicated in Figure 2.

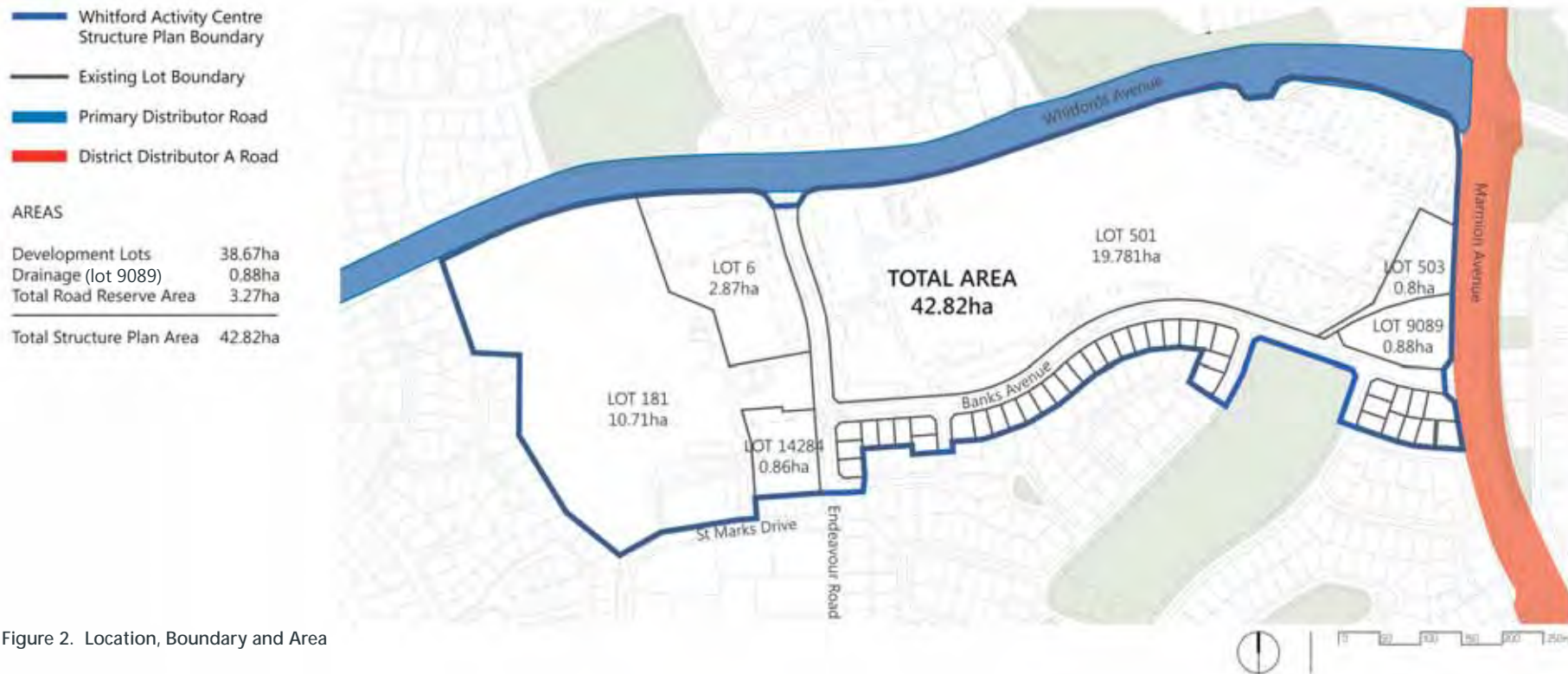


Figure 2. Location, Boundary and Area

### 2.2.3 EXISTING LAND USE

Current land use within the proposed boundary is predominantly represented by a large retail core comprising Westfield Whitford City, which has developed in stages over the last 30+ years. The existing centre includes 2 supermarkets, 2 discount department stores and a wide range of smaller specialty retail outlets totalling some 50,000m<sup>2</sup> of retail floor space within a total commercial floor space of 79,000m<sup>2</sup> including offices, entertainment and bulky goods.

The eastern part of the site has a community facility and open space (for drainage purposes) located on the Marmion Avenue frontage, owned and operated by the City of Joondalup. The western part of the site includes St Mark's Anglican Community School, bulky goods commercial (including a Bunnings Warehouse) and a range of child care and government facilities. Residential and some commercial uses such as professional and medical uses are located to the south of the retail core along Banks Avenue.

The surrounding area is less intensively developed than the centre and characterised by low density residential, education and open space recreational uses, within the centre's 800m (10 minutes) walkable catchment.

Figure 3 indicates existing land uses within the centre.



Figure 3. Existing Land Uses

## 2.2.4 LEGAL DESCRIPTION AND OWNERSHIP

Figure 4 indicates existing ownership within the Whitford Activity Centre. The large single ownership of the retail core as well as the bulky goods site presents opportunities for integrated built form and development, whilst fragmented residential ownership along Banks Avenue presents constraints to increased residential intensity.

Refer to Appendix A for further details of legal description and ownership.



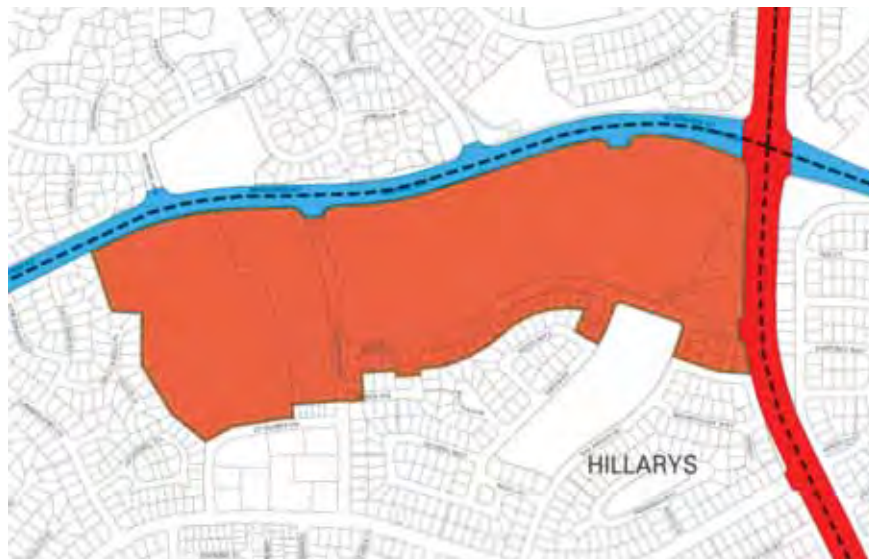
Figure 4. Existing Cadastre and Land Ownership

## 2.3 PLANNING FRAMEWORK

### 2.3.1 ZONING AND RESERVATIONS

#### Metropolitan Region Scheme

Whitford Activity Centre is zoned 'Urban' (refer Figure 5) under the Metropolitan Region Scheme (MRS). Marmion Avenue is identified as a 'Primary Regional Road' reserve and Whitfords Avenue is an 'Other Regional Road' reserve. Urban zoned land under the MRS provides for a range of urban based activities including residential, commercial, recreational and light industry. The current MRS zoning allows for the land use and development contemplated by the WACSP.



LEGEND

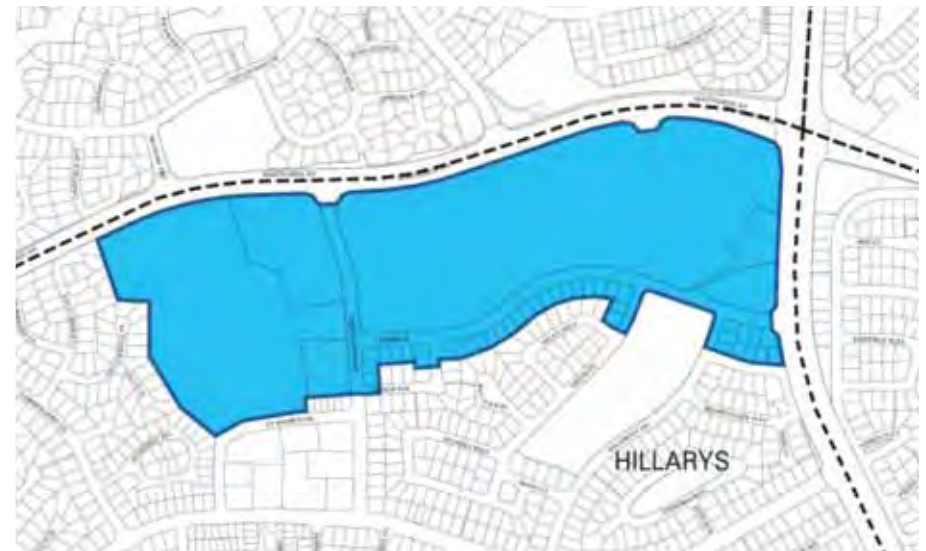
#### ZONES

- Primary Regional Roads
- Other Regional Roads
- Urban

Figure 5. MRS Zoning Map

#### City of Joondalup District Planning Scheme No.2

Figure 6 indicates the current zoning of land within the Whitford Activity Centre under the Scheme – which was recently amended to rezone lots within the activity centre boundary to 'Centre'. This zone essentially requires a Structure Plan to be in place prior to major development and subdivision, hence the production of the WACSP.



LEGEND

#### ZONES

- Centre

Figure 6. Zoning Map - City of Joondalup District Planning Scheme No. 2

## 2.3.2 REGIONAL AND SUB-REGIONAL STRUCTURE PLANS

### Draft Outer Metropolitan Perth and Peel Sub-Regional Strategy (WAPC)

The draft Outer Metropolitan Perth and Peel Sub-Regional Strategy, released by the Department of Planning in August 2010, focuses on development opportunities in the outer metropolitan region in support of Directions 2031. The strategy gives planning guidance at a more regional level outlining expected growth and strategies to achieve targets for employment and housing. The document outlines a requirement for 11,800 to 14,100 additional dwellings in the City of Joondalup municipality prior to 2031, however no specific dwelling numbers are allocated to the Whitford Activity Centre.



Figure 7. Planning Context Source: Directions 2031 and Beyond August 2010

### 2.3.3 PLANNING STRATEGIES

#### Directions 2031 and Beyond (WAPC)

Directions 2031 and Beyond was released by the WAPC in August 2010 to establish a vision for growth of the Perth and Peel regions. It is a high level strategic plan that guides detailed planning and delivery of housing, infrastructure and services to accommodate forecast population growth. A network of activity centres are proposed as community nodal points for people, services, employment and leisure, with larger centres providing a diverse range of retail, commercial, housing, entertainment, community, education and medical services.

Whitford Activity Centre is located in the North-West Sub-Region, where population is estimated by Directions 2031 to grow from 285,000 to 395,000 in 2031, requiring an extra 65,000 dwellings. This population estimate may be conservative according to more recent data. Having reviewed this data the Whitford Activity Centre assumes a forecast population growth for the North-West Sub-Region to 499,924 by 2031.

Directions 2031 notes a relatively weak local employment base in the North-West Sub-Region and seeks an increase in employment self-sufficiency from 41% to 60%, requiring 72,000 additional jobs located in the sub-region.

A more balanced distribution of infill and greenfield housing is promoted with a target of 47% of new dwellings provided as part of infill development.

Strategies for the transport network are identified including connecting the community with employment and services, improving public transport to encourage a shift to more sustainable transport options, maximising efficiency of road infrastructure, protecting the movement economy and managing car parking. Directions 2031 also seeks to manage impacts of the growth of Perth and Peel on the natural environment. Public transport strategies from Directions 2031 were further refined in the draft Public Transport for Perth 2031 document.

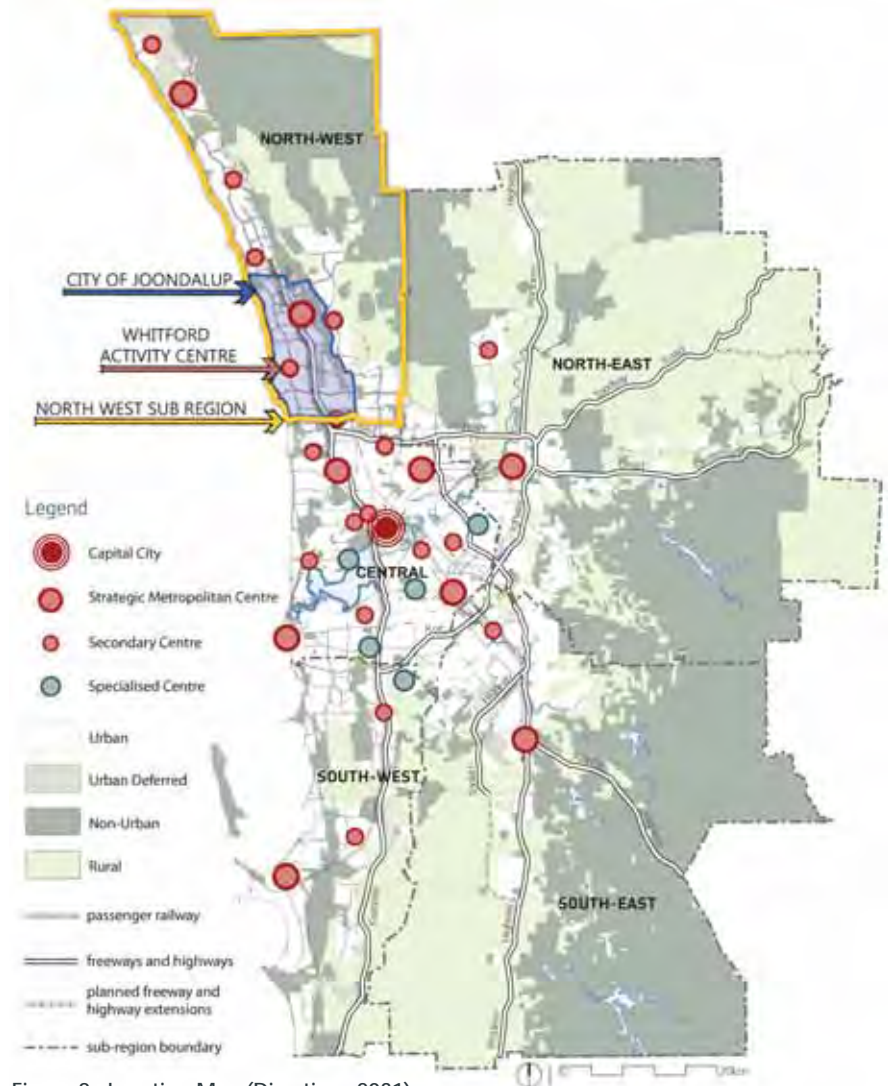


Figure 8. Location Map (Directions 2031)

## Local Planning Strategy (City of Joondalup)

The City of Joondalup's Local Planning Strategy identifies a planning direction for the next 20 years and the need to be consistent with Directions 2031 and SPP 4.2. It encourages redevelopment of commercial centres to include diverse activity and land uses "to retain a competitive edge and to become lively, attractive places." It also encourages "improvements to streetscapes, public safety, access, public transport and the pedestrian/cyclists network in and around centres."

## Local Commercial Strategy (City of Joondalup)

Centre development in the City of Joondalup is currently guided by the Local Centres Strategy which was produced in 2000 under the previous 1999 Metropolitan Centre Policy (WAPC Statement of Planning Policy). This state policy has subsequently been superseded by the SPP 4.2 (refer below), and consequently the City has produced a draft Local Commercial Strategy (released for public comment in late 2012 and endorsed by the City in December 2013).

The draft Local Commercial Strategy intends to provide for the equitable and orderly distribution of retail floorspace for community and commercial benefit, as well as maximising opportunities to expand other land use types in appropriate locations.

The draft strategy acknowledges that the Whitford Activity Centre is currently fulfilling its role as a Secondary Centre, with the exception of not having a Department Store. Additional office development is suggested as a potential way of better aligning the centre with SPP 4.2, however, the strategy outlines that land use intensity at 3,000m<sup>2</sup> per hectare is presently quite high in contrast to other centres in the municipality, which may pose challenges and particularly for car parking. Better provision of public transport is considered critical for the future of the Whitford Activity Centre.

The Local Commercial Strategy, when endorsed by the WAPC, will inform the development of a new Local Planning Scheme.

## Local Housing Strategy (City of Joondalup)

The City of Joondalup's draft Local Housing Strategy (endorsed by the WAPC November 2013) provides rationale for determining future housing needs and measures for providing a range of housing types and densities. Consistent with Directions 2031, it identifies the need for more housing in established areas, in particular in and around activity centres. Most of Whitford Activity Centre, east of Endeavour Road, is located in Housing Opportunity Area 5 – Whitford Centre to Whitfords Station (Refer to Figure 9).

Higher housing densities around Whitford Activity Centre are recommended as follows: "This area presents excellent opportunities for more compact living and greater housing choices focused around Whitford Regional Centre and the important public transport services on Whitfords Avenue." The strategy notes Marmion and Whitfords Avenues provide excellent private and public transport access to facilities in the area and beyond, including easy connection to Whitfords train station via high frequency services.

Specifically, the Draft Strategy proposed the introduction of a 'Mixed Use' zone for land on the south side of Banks Avenue.

### Public Transport for Perth 2031

In July 2011 the State Government released a public transport blueprint for the Perth Metropolitan Region, titled Public Transport for Perth 2031. This plan identifies the public transport network required to support Perth's growing population and links to and between strategic centres.

As part of the plan, a Bus Rapid Transit (BRT) link is proposed to run from Joondalup to Claremont via Whitford City, Hillarys, Karrinyup, Scarborough and Shenton Park. In the plan, the link would not be built until after 2031. The BRT is to operate in dedicated priority zones within existing streets, although there could be short sections where operation in a mixed use traffic environment is permitted.

The proposed intensification of the Whitford Activity Centre is in accordance with the key principles contained within the document as part of integrating public transport with land use planning. The document states that development should be concentrated in centres with major public nodes and high frequency services.

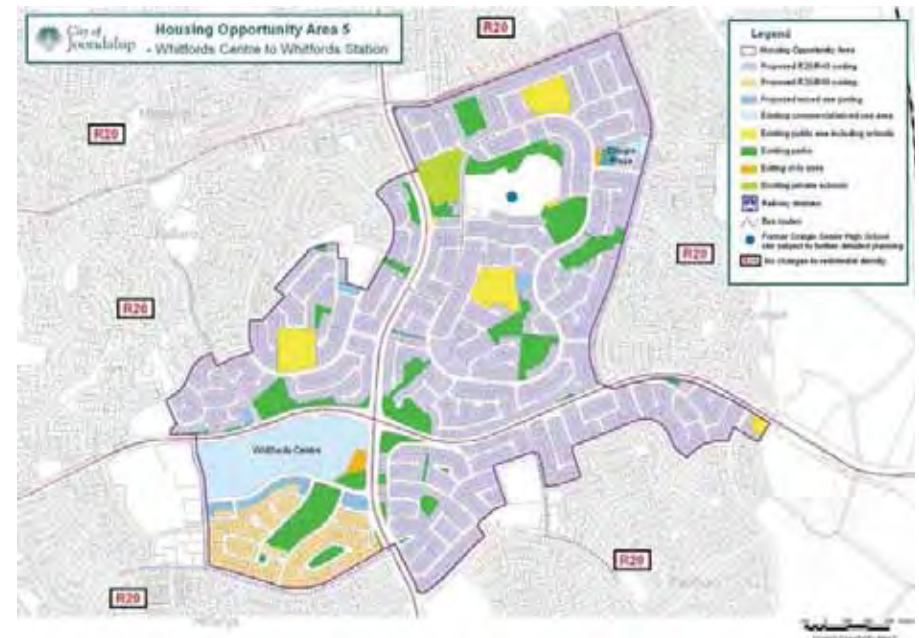


Figure 9. Draft Local Housing Strategy, Housing Opportunities Area 5



The policy prioritises walking, cycling and in particular public transport over private car access, referencing the WAPC's Development Control Policy 1.6 - Planning to Support Transit Use and Transit Oriented Development. Secondary centres such as Whitford provide an important focus for a high frequency bus service.

### Residential Design Codes (WAPC)

The Residential Design Codes are the key design and assessment tool for residential development in Western Australia. The codes generally set out requirements for setbacks, density, access arrangements and address issues such as privacy. The Residential Design Codes are applicable to all residential development unless otherwise varied within the development standards of the Structure Plan.

The proposed WACSP allocates R80 codings to the Banks, Retail and Education and Civic Districts within the Structure Plan area. For the Endeavour District, the Development Standards within Part 1 will guide design and densities.

### 2.3.5 OTHER APPROVALS AND DECISIONS

To lay the foundations for the implementation of the WACSP, a number of planning framework changes have had to occur and future steps will also be required to provide more detail for some districts within the Structure Plan area.

Consistent with the principles SPP 4.2, amendments to the planning framework have been made to provide a system that gives the WACSP sufficient control and scope to guide the development of the Whitford Activity Centre. Primarily, the most fundamental change to the planning framework is rezoning of land within WACSP boundary to 'Centre' – this was required to provide for a more seamless transfer of land use and development control provisions to the WACSP. This change is essential to providing a robust planning framework for the development of the Whitford Activity Centre.

### Whitford Activity Centre Rezoning to Centre (Amendment 68)

All lots within the WACSP boundary are zoned 'Centre', replacing a number of zones including Commercial, Residential, Business, Civic and Cultural and Private Clubs and Recreation.

Placing the land within the WACSP boundary into a single zone enables an easier transfer of development control provisions to the WACSP, resulting in a more effective and implementable document. The Centre zone under the Scheme generally defers development and land use control to applicable Structure Plans – giving the WACSP clear statutory effect and positions it as the primary reference document for development within this centre. This is in contrast to the previous various zones which contained different sets of objectives and were subject to differing land use and development control provisions.

This rezoning, which was originally initiated by the City of Joondalup at its October 2012 Ordinary Council Meeting, provides the statutory basis for the WACSP and therefore was an essential part of the planning process for the centre.

The rezoning also clearly defined, in a statutory sense, the extent of the WACSP in the Scheme, with agreement from Westfield and the City. The boundary incorporates the Westfield Whitford City site as well as a number of uses west of Endeavour Road, including St Marks Anglican Community School and some residential properties along Banks Avenue. The extent of the Centre zoning allows for the community, developers and the City to understand where the key activity and development will take place in the wider Whitford Activity Centre.

This page has been left blank intentionally

## 2.4 SITE CONDITIONS

The following section outlines the existing physical site conditions which have been taken into account during the preparation of the WACSP.

### 2.4.1 BIODIVERSITY AND NATURAL AREA ASSETS

The Structure Plan area is a 'brownfields' site. The whole area has been fully developed for some time and has no natural assets.

### 2.4.2 LANDFORM, SOILS AND MICROCLIMATE

#### Landform

There is a significant level difference from the high point at the Marmion-Whitfords Avenue intersection generally grading down to Endeavour Road. Ocean views are available from elevated west facing areas of Whitford Activity Centre, including from the retail core. Ocean vistas from the road network become more prominent west of Whitford Activity Centre.

#### Soils

Whitford Activity Centre is located on the western edge of the Spearwood dune system and there is significant limestone close to the surface, visible on the north side of the road cutting of Whitfords Avenue. This limestone has significant engineering and cost implications for construction of underground car parking or similar excavation. Geotechnical reports will be required prior to design of substantial buildings. In addition, tree growth is restricted due to lack of soil depth and alkaline conditions. Ideally tree root zones should be designed with consideration to utilities, civil and paving and include excavation of limestone replacement with improved soil, using best practices for improved tree growth and avoidance of impacts on paving.

#### Microclimate

Perth is influenced by a Mediterranean climate regime, experiencing hot, dry summers and mild, wet winters. Whitford Activity Centre is in an elevated, near coastal location and receives reliable sea breezes in summer making external activity typically more pleasant in summer than for the eastern suburbs; these breezes are often quite strong. The coastal proximity and elevation of the centre also increases exposure to high wind events often combined with rain associated with winter frontal systems. Wind is a significant factor in design of the built environment at Whitford Activity Centre.

Figure 11 indicates landform and microclimate in the Structure Plan area.

### 2.4.3 ENVIRONMENTAL CONSTRAINTS AND SITE CONTAMINATION

There is an existing fuel service station located on the corner of Whitfords Avenue and Endeavour Road. This site will need to be remediated in accordance with DEC requirements prior to redevelopment. There is also a former service station site that was located in the approximate location of the existing Woolworths loading bay, that has now been redeveloped. This site has previously been the subject of a preliminary and detailed site investigation and is in the process of being remediated.

### 2.4.4 HERITAGE

A desktop survey of the Heritage Council of Western Australia Online database has been undertaken in respect to European heritage sites. No European heritage sites are recorded on the database over, or immediately surrounding, the subject land.

A desktop survey of the Department of Indigenous Affairs Aboriginal Heritage Enquiry System has been undertaken in respect to Aboriginal heritage sites. No Aboriginal heritage sites are recorded on the database over the subject site.

-  Whitford Activity Centre Structure Plan Boundary
-  Existing Lot Boundary
-  1m Contours
-  Steeper Slopes
-  Views & Vistas
-  Coastal Breezes
-  Northern Aspect

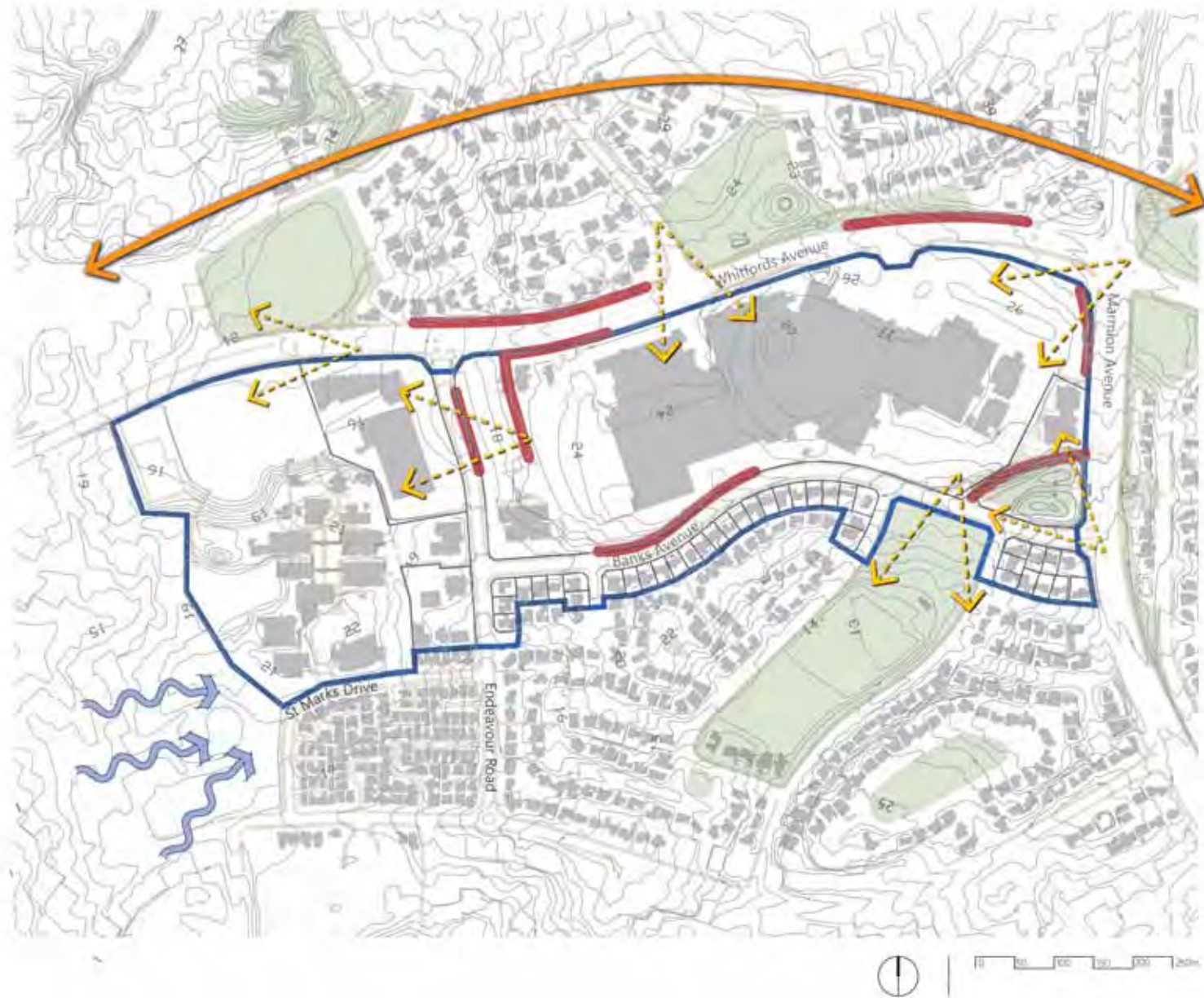


Figure 11. Landform and Microclimate

## 2.5 MODEL CENTRE FRAMEWORK CONSIDERATIONS

### 2.5.1 URBAN FORM

#### Directions 2031

“A liveable city: Living in or visiting our city should be a safe, comfortable and enjoyable experience.”

#### Urban Structure and Character

The urban structure of Whitford Activity Centre is typified by 1970's suburban development with a circuitous impermeable street network and a series of larger land holdings dedicated to commercial and education purposes. The transition in character between detached predominantly single storey housing and large horizontal format retail and commercial buildings is abrupt, giving the centre a lack of cohesive structure and character. To improve the urban structure of Whitford Activity Centre, improved connectivity and spatial relationships between physical elements are proposed.

The predominant character areas within and around Whitford Activity Centre are indicated on Figure 12 and are:

- 'Big box' retail - internal retail mall infrastructure surrounded by car parking, generally inactive edges and hard vehicle surfaces.
- Low density residential - 1970-90's single storey detached dwellings set in the dunal topography and with a landscape character of a blend of indigenous and exotic species, with several stands of significant Tuarts.
- Low scale campus buildings - including St Mark's Anglican Community School, various low scale community buildings and strata dwellings.

These character areas have a sense of place and amenity appropriate to a separated and suburban setting. A new defining character that is more urban and integrated and provides for a greater level of activity within the centre, is proposed to meet the objectives of SPP 4.2.

Four districts are proposed that have differing predominant land uses and character, as described in the Structure Plan section 2.6.2 and indicated in Figure 13.



Existing Character

Proposed Character

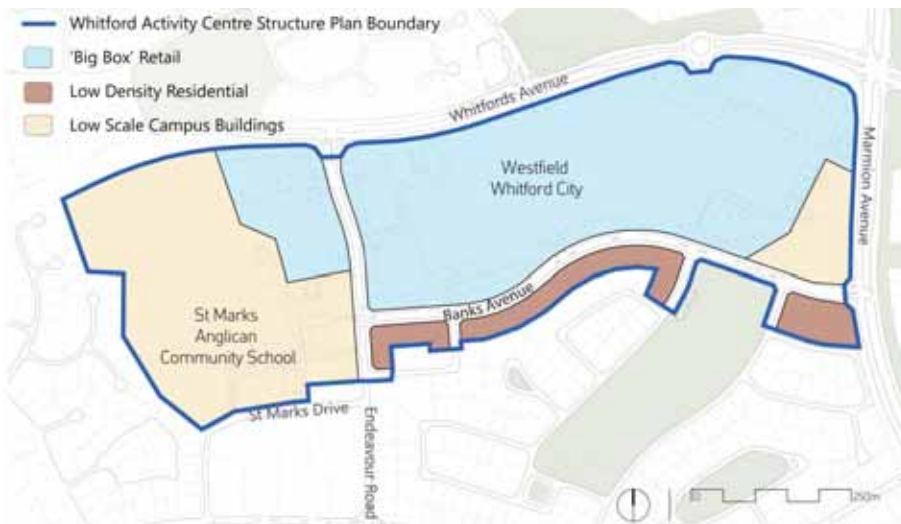


Figure 12. Existing Character Areas

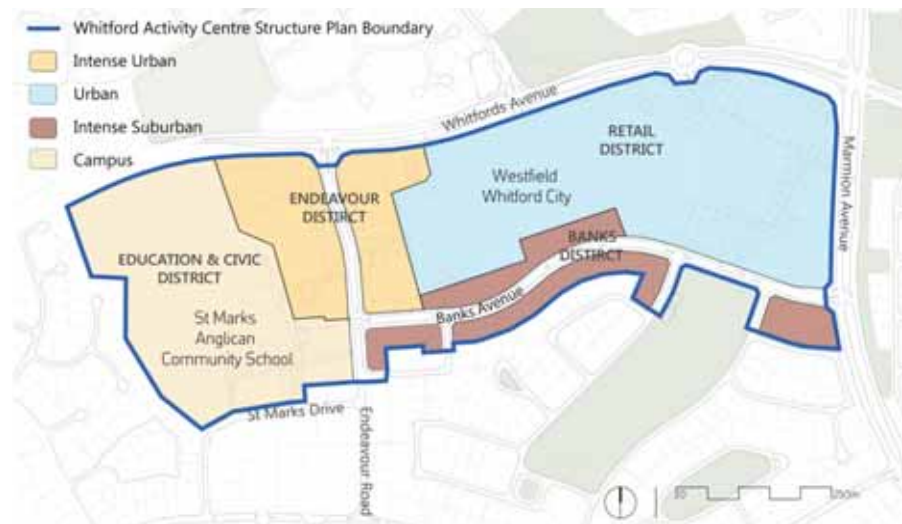


Figure 13. Proposed Character Areas or Districts

## Public Space Landscape

### Provision and Character

Whitford Activity Centre has an abundance of public open space immediately surrounding it, however there is an absence of urban spaces (i.e. squares, piazzas). Surrounding open spaces provide passive and active recreation, with formal sporting fields in James Cook Park and St Mark's Anglican Community School (private). Some open spaces also have a stormwater function. There are landscaped spaces at the intersection of Marmion and Whitfords Avenues which provide a sense of arrival and a green edge to the centre, however, they are inactive and uninviting. The shopping centre provides a plaza at the intersection of Dampier Avenue and Whitfords Avenue, however, this is at an upper level and disconnected from the street.

### Microclimate in Public Spaces

Existing public spaces in the centre provide limited microclimate improvement. Street tree planting is limited to the median of Banks Avenue, and the median and some verges of Whitfords Avenue. With the exception of some trees on Whitfords Avenue, street tree planting is not particularly successful, most probably due to wind and limestone soil. As the centre becomes more urban, it will have a larger proportion of hard surfaces increasing the heat island effect. Measures will need to be taken to ameliorate this effect through increased shade tree planting and soft landscape in public places.

### Landscape

The City of Joondalup Landscape Master Plan provides guidance for the landscape of public spaces.

Landscape in the centre will be designed for functional and cultural requirements of outdoor spaces in an urban context and consideration will be given to activity and circulation, shade and wind protection and safety and security (CPTED principles). Best practice for installation and maintenance will be applied to all landscapes to be attractive and safe, fit for purpose and adaptable. Materials, furniture and fixtures will be selected for life cycle efficiency. They will have a consistent palette and reusable/recyclable content.

Planting in public spaces will use consistent themes, be selected for local soil and microclimate conditions (including limestone and wind) and be South West Australian species, where suitable. Tree rooting zones designed concurrently with paving, roads and infrastructure will be used for trees in street and plaza areas.



Existing Public Space

Proposed Public Space

## Legibility and Sense of Place

Legibility at Whitford Activity Centre is generally poor due to a lack of logical connections in the street network and little defining and cohesive character in the urban form. The prominence of the shopping centre provides the primary reference point for visitors although the disconnection between internal and external pedestrian movement at the shopping centre limits legibility.

The sense of arrival is typical of a suburban shopping centre with a clear transition between surrounding roads, car parks and building entries. The existing road hierarchy provides orientation cues to the shopping centre at a vehicle scale and there are various pylon signs along Whitfords and Marmion Avenues to direct visitors.

To improve the legibility and permeability of the centre, prominent pedestrian entrances are proposed on Whitfords Avenue and Endeavour Road to provide a clear sense of arrival to the Centre.

There is currently no public space or street intersection that clearly signals arrival at the 'centre of town'. However, there are some existing features that provide a sense of place for the centre. These are:

- Westfield Whitford City.
- James Cook Reserve to the south of the centre.
- Bunnings Warehouse.
- St Mark's Anglican Community School.

The sense of place at Whitford is also influenced by the ocean views available from elevated west facing areas, including the shopping centre along with the ocean vistas from the road network west of the centre, contributing to the sense of place. Views and vistas into the centre are available from Dampier Avenue and Whitfords Avenue, however, views from Marmion Avenue are obscured by landscape and the existing community centre.

Figure 14 and Figure 15 depict existing and proposed legibility.



Figure 14. Existing Legibility

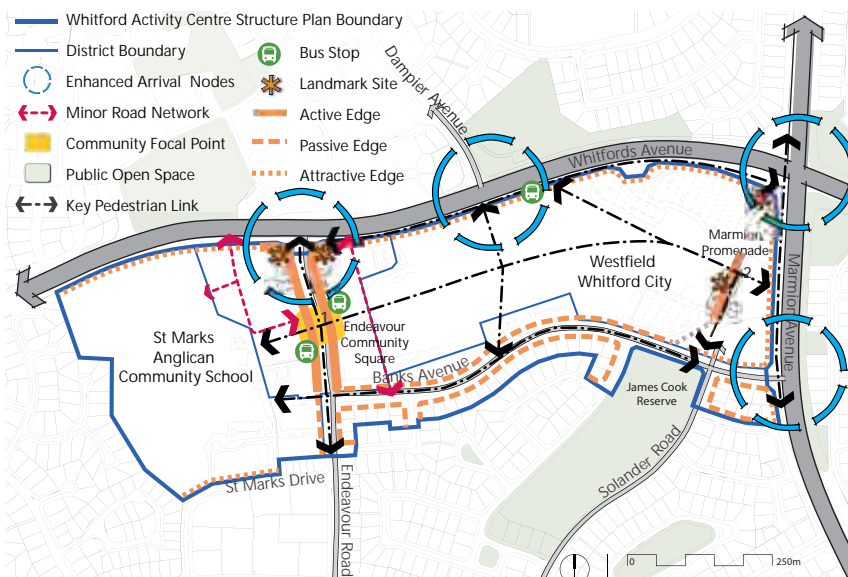


Figure 15. Proposed Legibility

## Landmark Locations

Landmark sites and community focal points are proposed to enhance the legibility and community focus at the centre. The proposed community focal points are:

- Endeavour Community Plaza.
- Marmion Promenade (on private land).

The proposed landmark sites are:

- Buildings at the intersection of Whitford Avenue and Endeavour Road (east and west side) which will signify arrival at the Main Street of the centre.
- The retail building fronting Marmion Promenade which enhances the address of the centre from Marmion Avenue.
- Landscape elements at the intersection of Marmion Avenue and Whitfords Avenue which signify approach to the centre at a vehicle scale.

Development standards that apply to these community focal points and landmark sites are included in Part 1 Statutory Section.

### 1. Endeavour Community Plaza

Endeavour Community Plaza on Endeavour Road will become the primary community focal point at the western end of Whitford Activity Centre (refer to Figure 16). It will be alive at all times of the day and into the evening and weekend. The square will be surrounded by buildings with a diverse range of activities including street based retail, community facilities, restaurants, bars and cafes, workplaces and high density residential. It will be framed by 3 storey buildings with continuous active frontage and colonnades or awnings at ground level. The square will have direct pedestrian connections into the shopping centre and the education campus area. There will be alfresco dining and community gathering areas, with access to morning sun in winter and shade by trees and pergolas in summer.

### 2. Marmion Promenade

The promenade will be lit in the evening and with improved views in from Marmion Avenue, will provide a beacon for the eastern edge and an enhanced sense of arrival of Whitford Activity Centre (refer to Figure 17). It will be an open air promenade, characterised by high end street treatments and substantial glazing. The promenade could be continued out to Marmion Avenue, providing a safer and friendlier environment for pedestrians using the Marmion Avenue bus stop. There is also an opportunity to provide a link through to Whitfords Avenue.

## Prominent Pedestrian Entrances

Prominent pedestrian entrances will be established on Whitfords Avenue and Endeavour Road providing a strong sense of arrival to the shopping centre. These entrances will create an attractive interface between the retail core, Whitfords Avenue and Endeavour Road; by providing a pedestrian friendly environment through the creation of legible and convenient pedestrian routes and prominent entrances in distinct locations. The prominent pedestrian entrances will be reinforced by the surrounding built form that will be designed in a manner that addresses the street; connecting visually and physically to pedestrian routes linking the centre to surrounding streets.



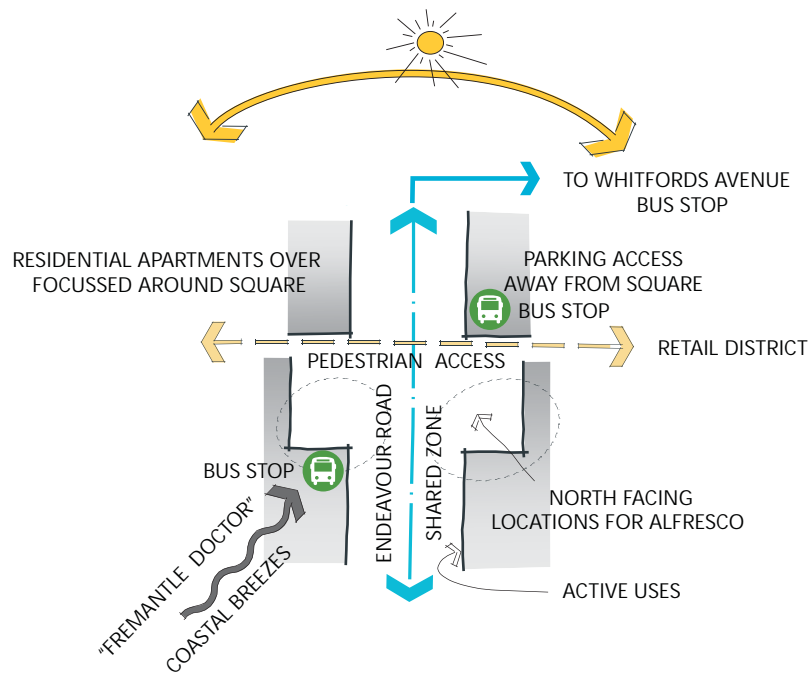


Figure 16. Endeavour Community Plaza



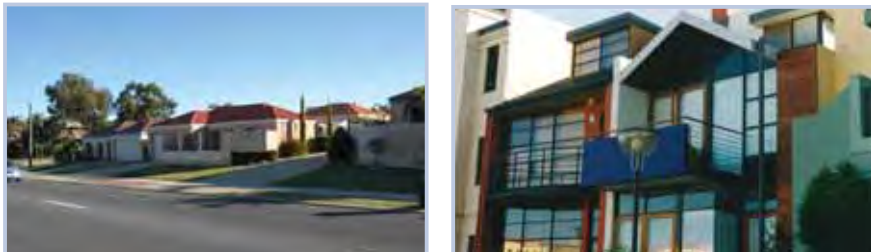
Figure 17. Marmion Promenade

## Spatial Framework

The existing spatial framework of Whitford Activity Centre is formed in part by the predominance of the shopping centre and in part by the suburban residential surrounding it. The mass of the shopping centre and other large format buildings command the spaces surrounding them but do not frame or contain them. The surrounding suburban residential areas consist of detached smaller scale buildings with uncontained space and significant gaps between buildings.

Buildings that frame and contain public spaces and streets will be introduced to create an integrated urban setting.

Figure 18 and Figure 19 depict existing and proposed spatial framework.



Existing Building Typologies



Proposed Building Typologies

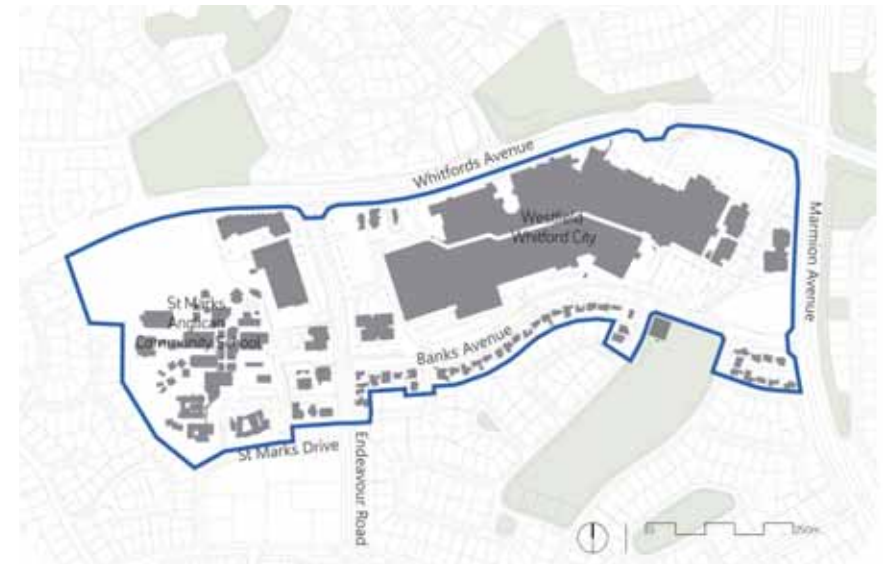


Figure 18. Existing Spatial Framework

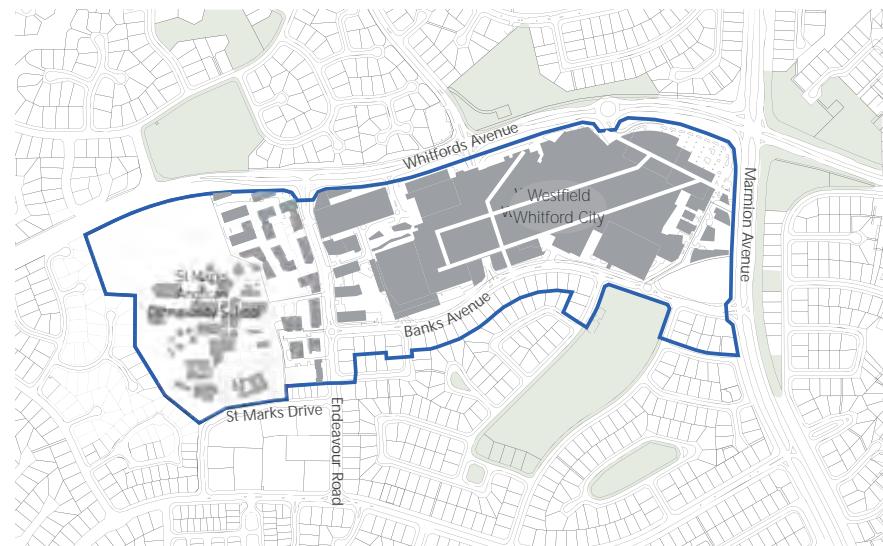


Figure 19. Proposed Spatial Framework

## Building Envelope

### Climate Response and Solar Access

Buildings that are designed in response to climate with good orientation, adjustable weather control and thermal mass will be encouraged at Whitford, to provide comfortable living and working environments. Importantly for the centre, external spaces designed in response to climate will also be more pleasant to use, attracting people to the centre both during the day and evening and encouraging people out on to the street.

The local Mediterranean climate at Whitford requires both heating and cooling of habitable buildings during different times of the year. The 'Fremantle doctor' afternoon coastal breezes impact on microclimate in the centre, providing good natural ventilation, but also adverse wind conditions at times. Perth has a high proportion of clear skies throughout the year giving opportunities for passive heating of buildings and energy generation with photovoltaics.

### Occupant Amenity

Established housing surrounding the centre is adequately separated so that impacts on residential amenity (such as noise, odour, overlooking and overshadowing) are minimised. In a more intense urban environment, these amenity issues will require more careful consideration. New buildings at Whitford Activity Centre, both residential and commercial will be designed to limit detrimental impacts from other uses. Issues of privacy and overlooking will be resolved through setbacks and screening consistent with the R-Codes.

### Adaptability

The existing buildings at Whitford are generally separated and designed for a single purpose. SPP 4.2 establishes metrics for increased diversity and intensity of activity. There is no definition of appropriate ratios of uses that will make the centre vibrant and successful at different stages of development. New buildings that have the capacity for changed use will offer maximum flexibility to respond to market and community drivers. A 4.5m floor to floor height at ground level is required and structure to enable future additional floors to be added is encouraged.



Figure 20. Climate Response

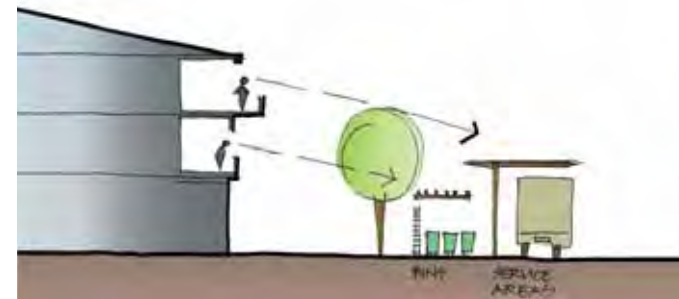


Figure 21. Visual Screening of Service Areas

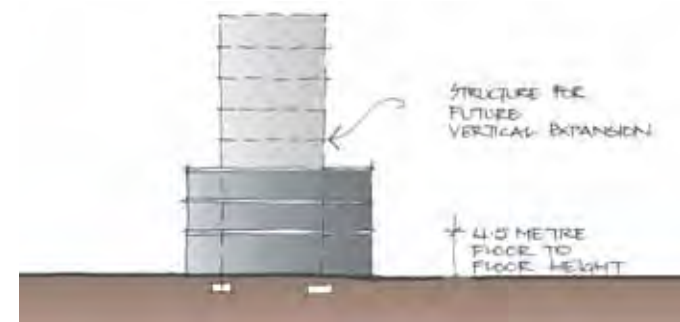


Figure 22. Adaptable Buildings

## Response to Topography

Whitford Activity Centre is characterized by undulating dunal topography. Level differences are quite significant along Banks Avenue and between the shopping centre malls and Endeavour Road. The level changes will require innovative design solutions, including stepped and terraced buildings, to create an attractive and diverse built form.

Multi-level buildings with podium apartments behind lower level buildings built to the street will be designed, to accommodate level changes (refer to Figure 24). Generous and legible vertical circulation (stairs and ramps) will provide clear connections between the shopping malls and the street.

## Roofs

Roofscapes that can be viewed from public spaces and streets will impact on the character and amenity of the centre. The appearance of roofs and their relationship with adjoining roofs is increasingly important, as intensity and the range of building heights and their uses increases. The use of roofs for landscape, energy generation and active uses will add a new dimension to buildings. The roofs of lower buildings, including parking decks, will be treated to provide outlook for taller buildings and limit heat island effects.

## Private Open Space

As Whitford Activity Centre intensifies increasing numbers of people will come to live in the centre. Dwellings and household sizes may be smaller than surrounding housing and there will be greater demand for access to the surrounding green spaces and streets. Private open space will be predominantly provided in the form of deep balconies, terraces and roof gardens.

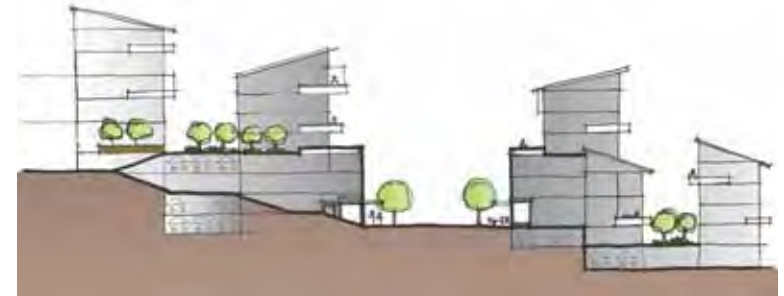


Figure 23. Response to Topography

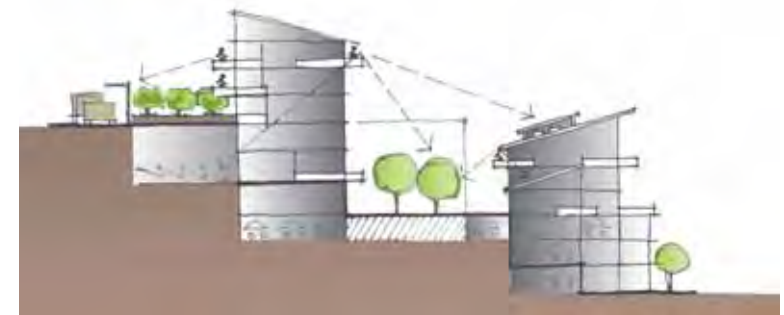


Figure 24. Attractive Roofscapes

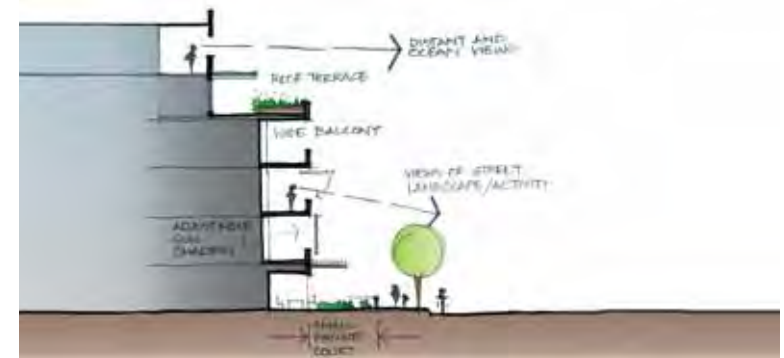


Figure 25. Private Open Space

## Street Interface

The existing street interface at Whitford reflects the separated suburban nature and the topography of the centre and includes:

- Large format retail buildings with predominantly inactive edges or vehicle dominated frontages.
- Detached dwellings with front gardens providing a good passive surveillance.
- Strata residential which interfaces poorly with high walls on St Marks Drive.

The scale and operational requirements of the shopping centre limit the potential extent of street activation. This is due to factors such as:

- Large service docks and turning areas for delivery vehicles.
- Provision of large car parking areas in convenient locations.
- Retail anchor tenants with strict dimensioning and layout requirements.
- Limited uses appropriate to sleeve buildings in low footfall areas.

The air-conditioned shopping malls allow retailers to have open shop fronts and are seen by shoppers as refuge from both hot and wet weather. Outside, however, there is little weather protection and to encourage visitors out into the street it will be important to provide them with improved weather protection, as well as amenity and safety.

The Street Interface Plan (Part 1, Figure 2) indicates the graded level of building activation proposed based on projected pedestrian footfall in the centre. Three levels of activation are proposed being: active, passive and attractive. Street interface considerations in an active urban environment include fenestration; weather protection; signage and lighting at a pedestrian scale; limited plant and equipment on frontage and alfresco dining provision. Considerations at entries include: major entrances expressed in building form; vertical circulation (stairs and lifts) visible from the street; consistency between inside and outside levels; cycle parking, letter boxes and sheltered waiting areas. In a more passive street environment, landscaped front setbacks and windows overlooking the street are encouraged, whilst an attractive street interface where little pedestrian footfall is anticipated could include landscape and building facades and screens that have an artistic or sculptured character.



Figure 26. Active Facade Articulation (mixed use)



Figure 27. Passive Facade Articulation (residential/mixed use)



Figure 28. Attractive Facade Articulation (retail)



Existing Street Interface

Proposed Street Interface

## Key Streets

### Whitfords Avenue

Whitfords Avenue, between Marmion and Dampier Avenues, will ultimately have an improved pedestrian environment. Built form will vary along Whitfords Avenue frontage which includes parking and service areas and less active parts of the shopping centre. Development however, adjacent to the future bus embayments along Whitfords Avenue shall provide for both a strong visual and pedestrian connection to this future public transport node. This area shall be treated as “passive frontage”. Those areas of low footfall will be treated to be ‘attractive’ while locations such as around the intersection with Endeavour Road where pedestrians will be encouraged to cross at street level, will have an active street interface.



Figure 29. Existing Whitfords Avenue Street Section

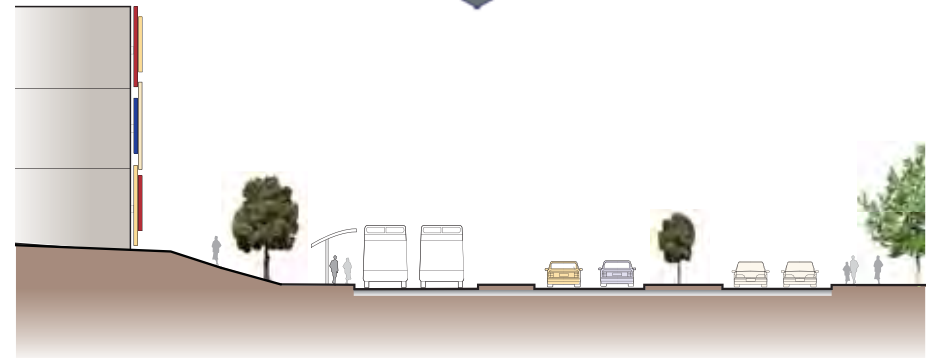


Figure 30. Proposed Whitfords Avenue Street Section

## Endeavour Road - Main Street

The west end of the centre will be redeveloped from existing low scale separated buildings into an integrated urban form that 'climbs the hill' and connects to the shopping malls. Endeavour Road will become a vibrant and active Main Street environment with well-articulated multi-storey buildings to both sides of the street. Apartment and commercial buildings from 2 to 7 storeys (or 25.0m) will sit above parking podiums with an active street of retail and commercial development at ground level. The difference in level between Endeavour Road (RL 17.0) and the retail malls (RL 27) will provide interest and character in the built form and enable parking structures to be sleeved behind active street edge buildings. Built form at street level will also need to respond to the location of the new bus stop.



Figure 31. Existing Endeavour Road Street Section



Figure 32. Proposed Endeavour Road Street Section

## Banks Avenue

Banks Avenue will continue to provide a transition from the shopping centre to residential areas to the south. A street environment with mixed uses at ground level to both sides of the street and buildings of 3 storeys will provide an appropriate and improved transition in scale and activity. Buildings will have a passive street interface with pedestrian shelter at main building entrances and a strong connection to the Retail District. Landscaped frontages with permeable fencing will soften the streetscape. On-street parking will be provided on both sides of Banks Avenue.



Figure 33. Existing Banks Avenue Street Section

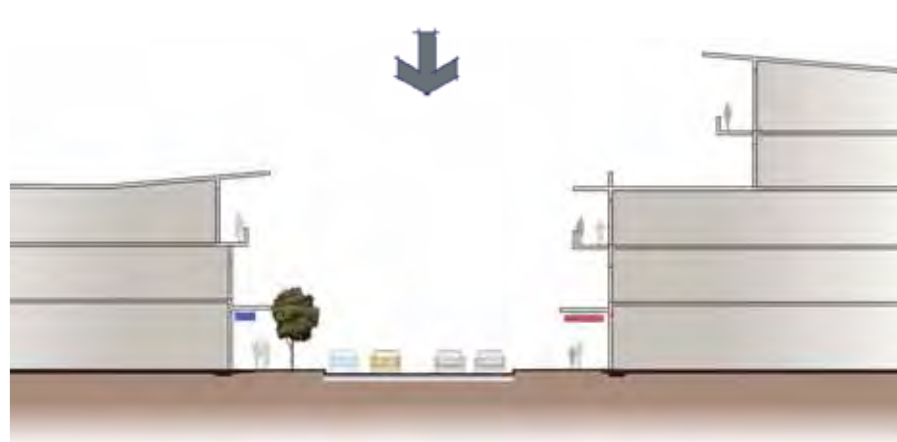


Figure 34. Proposed Banks Avenue Street Section

## Urban Form Principles and Opportunities

Westfield Whitford City is a large suburban shopping centre with major anchor tenants in an internalised mall and a focus on private car access. The challenge is to integrate this large centre into a vibrant urban centre with a pedestrian friendly street environment, a broader range of activities and a unique sense of place.

In the west end of the centre, there is opportunity to create an urban street environment focused on Endeavour Road. This will connect a wide range of activities including the shopping centre malls and allow for more intensity and diversity. This is an appropriate location for a new urban plaza. This square is proposed as Endeavour Community Plaza.

The eastern frontage on Marmion Avenue offers an opportunity to create a new address and character for the activity centre as an activated urban place. This location is also appropriate for a new urban pedestrian space. This space is proposed as Marmion Promenade.

Significant level changes between the retail malls (RL 27.0) and Endeavour Road (RL 17.0) can be used to provide sleeved parking podiums behind active frontage development. The challenge will be to design the urban form to resolve level differences to integrate the malls into the new street environment and to create drama in the urban setting.

In the Endeavour District, there is significant opportunity to locate and configure residential apartment buildings to take advantage of ocean views from upper levels. These buildings will be typically 4 storey and potentially up to 7 storeys in landmark locations, and where adjoining residential amenity is not affected. There is opportunity to take advantage of ocean views available at Whitford Activity Centre for upper floor apartments, to add to the appeal of Whitford Activity Centre as a place to live in the future.

Banks Avenue will naturally intensify and evolve to a more urban place, with both active and passive ground level uses with 2-3 storey residential over. It will be characterised by transition in scale and form to the residential area to the south.

A range of housing types will be developed in the centre including terraces and townhouses, as well as apartment buildings. This will provide housing choice and diversity. All new buildings, especially housing, will be designed with good climate response and with adaptability for changing uses and lifestyles.

Existing Street Interface



Proposed Street Interface



Source: Studio 505 Artist: John Warwicker



Source: Urban Art Projects Artist: Ned Kahn

## 2.5.2 MOVEMENT

### Introduction

In the future, the Whitford Activity Centre will have increased intensity and diversity of activity including expansion of retail, increased housing and additional mixed-use office, residential and recreational facilities. This will offer advantages such as:

- Employees and residents will enjoy improved amenity, with retail, food, entertainment and employment within walking distance.
- Higher residential densities will generate a critical mass of patrons for improved public transport services.
- Adding substantial employment to Whitford Activity Centre will create a bi-directional public transport network with greater efficiencies.
- Proximity of different land uses will allow for a greater proportion of multi-purpose trips, reducing traffic generation.
- An increase in intensity over time will provide opportunities to improve efficiency of on-site parking, to create shared parking areas and to reduce total parking provision.
- Pedestrian friendly streets will provide access to diverse uses, thereby creating a communal space with inherent benefits to safety, legibility and amenity.

The following sub-sections consider the existing transport and traffic network and the upgrades required to adequately service the Whitford Activity Centre.

### Transport Context

The Whitford Activity Centre is located approximately 20km north of the Perth CBD on Whitfords Avenue, adjacent to Marmion Avenue. This location can be easily accessed from the Mitchell Freeway via the Whitfords Avenue off-ramp and directly from Marmion Avenue, a primary north-south arterial road running parallel to Mitchell Freeway.

Whitfords rail station is located on Whitfords Avenue at the freeway interchange. High frequency bus services connect the Centre to Joondalup, Warwick and Whitfords rail stations, via suburbs west of the freeway. The road reserve along Whitfords Avenue presents the opportunity to provide additional capacity for public transport via bus lanes and high quality bus stop facilities. In the longer term this could provide part of the necessary infrastructure for a BRT route within the north-west suburbs.

The Whitford Activity Centre is also well located on regional cycle routes and future improvements to the local bicycle network will increase the attractiveness of cycling, with all its inherent benefits to sustainability, health and fitness.

The Centre therefore presents the ideal opportunity to develop an activity centre in the mould of the strategy set out in Directions 2031 and subordinate strategies and planning policies.

Figure 35 shows the Westfield Whitford Activity Centre in its regional context.



Figure 35. Regional Road Network

The appended transport study (refer Appendix 3) provides an assessment of the transport network impacts associated with future development and determined a framework by which to develop the various uses of the Whitford Activity Centre (the Centre), based on the yields outlined in the proposed Structure Plan for the Centre. In undertaking this study, various policy and guideline documents have been used, of particular note:

- State Planning Policy 4.2 – Activity Centres Policy;
- Transport Assessment Guidelines for Developments – Volume 2 – Structure Plans;
- City of Joondalup District Planning Scheme No.2 (DPS2);
- Public Transport for Perth in 2031; and
- Transport Assessment Guidelines for Developments – Volume 2 – Structure Plans.

During the undertaking of this assessment, various discussions and workshops have been held with the following stakeholders to assist in determining the appropriate outcomes:

- The City of Joondalup;
- The Department of Transport (DoT);
- The Public Transport Authority (PTA);
- Main Roads Western Australia (MRWA) and
- Department of Planning (DoP).

The assessment has been based on the proposed design horizon (2026) Structure Plan yields determined as:

Land Uses	Estimated Area
'Retail' (PLUC 5)	77,500 sqm
'Entertainment' (PLUC 9)	16,000 sqm
'Other Retail' (PLUC 6)	11,500 sqm
'Health, Welfare and Community' (PLUC 8)	23,500 sqm
'Other/Service Industry' (PLUC 4)	4,500 sqm
'Office' (PLUC 7)	22,500 sqm
'Residential' (PLUC 10)	739 dwellings

## Public Transport

Existing public transport in the vicinity of the Centre is provided by Transperth feeder bus services. The majority of these services run east-west along Whitfords Avenue to service the Whitford Train Station. Bus shelters have been provided along Whitfords Avenue, though not along most other local roads. Public transport between the centre and major transport destinations is of a high standard, with efficient and frequent connections to Joondalup and the Perth CBD, among others. The existing bus services are shown in Figure 36 below.



Figure 36. Existing Public Transport Services

The Department of Transport document 'Public Transport in Perth 2031' shows Whitfords Avenue forming part of a Bus Rapid Transit (BRT) corridor between Joondalup and Warwick Stations. This has been tentatively indicated for after 2031 but is assumed to depend on patronage projections and economic viability facilitated by appropriate development, and could therefore be brought forward in the right circumstances.

The proposed Structure Plan public transport strategies aim to build on the existing provisions, accounting for the form of and location of new development as well as responding to the wider strategies, such as BRT. This provides potential solutions to set the framework for future infrastructure provisions that any new development will respect and provide for, where deemed necessary to account for the transport impacts of that development.

- Bus Re-routing – rerouting of the 442 service to Endeavour Road to better serve the Centre
- Bus station – A potential new bus station on the south side of Whitfords Avenue to consolidate bus stops and provide better access between the shopping centre and public transport
- New and Improved bus stops – particularly where the 441 and 442 services are consolidated on Endeavour Road and
- Bus lanes – provided on Whitfords Avenue across the Marmion Avenue intersection
- The Structure Plan identified public transport is shown in Figure 37 below.

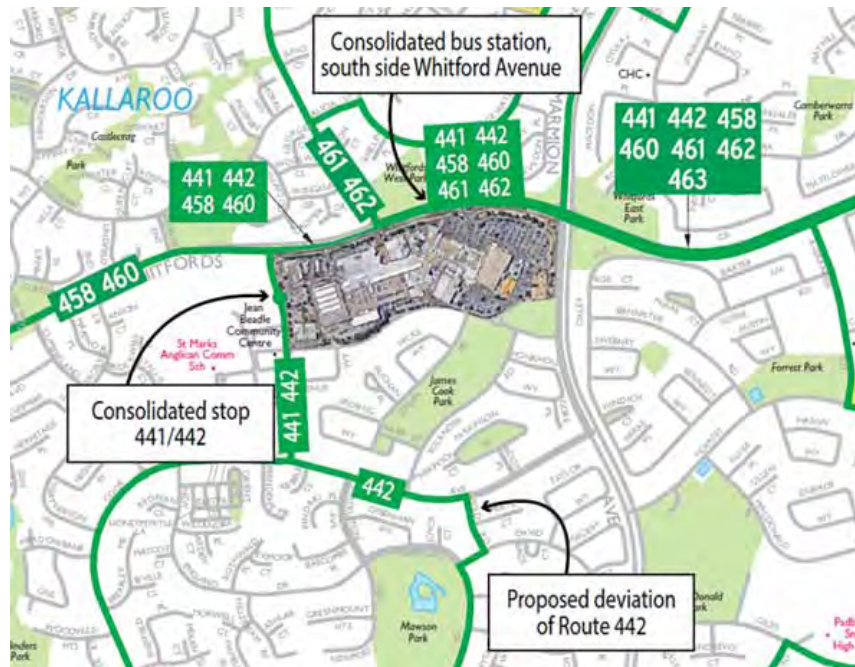


Figure 37. Structure Plan Proposed Public Transport

## Active Transport

Pedestrian footways are provided on both side of all roads in the Centre with the exception of the residential access roads south of Banks Avenue that have footways on only one side. Controlled road crossings are provided at all signalised intersections and informal crossings elsewhere. A pedestrian underpass is located on Whitfords Avenue providing a connection between the shopping centre and both the bus stops on Whitfords Avenue and residences to the north. Close to the school entrance on Endeavour Road, there is a single controlled point, attended during school peaks by a crossing guard.

The existing cycling infrastructure links the Centre and surrounding area to the Mitchell Freeway and rail station. Various standards of cycle provision are provided within the Centre. It is noted that the current Joondalup Bike Plan from 2009 proposes new on road cycle paths on Whitfords Avenue, east of Dampier Avenue and an Arterial Shared Path along Marmion Avenue as part of future planning.

The existing active transport facilities are shown below on Figure 38.



Figure 38. Existing Active Transport

Proposed improvements for active networks identified in the Structure Plan are:

- Improved footways as part of new development within the Centre;
- The activation of Endeavour Road allowing better crossing opportunities and lower vehicle speeds;
- The potential for signalised crossings at the school entrance from Endeavour Road; and
- The provision of cycle lanes on Banks Avenue and Endeavour Road.

Bicycle parking is to be provided at the following rates (based on existing approved Activity Centres within the Perth metropolitan area):

Use	Minimum Long Term Parking	Minimum Short Term Parking
Multiple Dwelling	As per the Residential Design Codes	As per the Residential Design Codes
Short Stay Accommodation, Hotel (accomm), Motel	1 space per 40 guest bedrooms	Nil.
Commercial **	1 space per 1,500m <sup>2</sup> NLA	1 space per 1000m <sup>2</sup> NLA
Office	1 space per 250m <sup>2</sup> NLA	1 space per 750m <sup>2</sup> NLA
Consulting Rooms, Medical Centre	1 space per 8 practitioners	1 space per 4 practitioners
Hotel, Tavern, Small Bar, Nightclub	1 space per 100m <sup>2</sup> of bars and public areas including lounges, beer gardens and restaurants.	1 space per 150m <sup>2</sup> of bars and public areas, including lounges, beer gardens and restaurants
Recreation Centre, Private Recreation.	1 space per 400m <sup>2</sup> NLA available to the public, including swimming pools	1 space per 200m <sup>2</sup> NLA available to the public, including swimming pools
Public exhibition facility, Place of Worship, Place of Assembly, Reception Centre.	Nil	1 space per every 30 people the space is designed to accommodate.
Showroom	1 space per 750m <sup>2</sup> NLA for premises greater than 300m <sup>2</sup> NLA.	1 space per 1000m <sup>2</sup> NLA

\*\* Commercial includes a Shop, bank, Betting Agency, Convenience Store, Drive Through Food Outlet, Lunch Bar, Restaurant, Restricted Premises and Service Station. Uses not listed will be at the discretion of the City.

End of trip facilities support the use of bicycle transport by allowing cyclists the opportunity to shower and change at the beginning or end of their journey to and from work. The following provisions will be provided for non-residential development:

- A minimum of one locker for each bicycle space;
- A minimum of one unisex shower and change room. Additional shower facilities are to be provided at a rate of one female shower and one male shower for every additional 10 bicycle parking bays, to a maximum of 5 female and 5 male showers per development;
- End of trip facilities must be located as close as possible to bicycle parking facilities; and
- End of trip facilities must be located in convenient locations, such as near building entrances and near cycling routes.

The Structure Plan identified active transport is shown in Figure 39 below. Cycle lanes along Whitfords Avenue are shown as they are included in the City of Joondalup's 2009 Bike Plan.

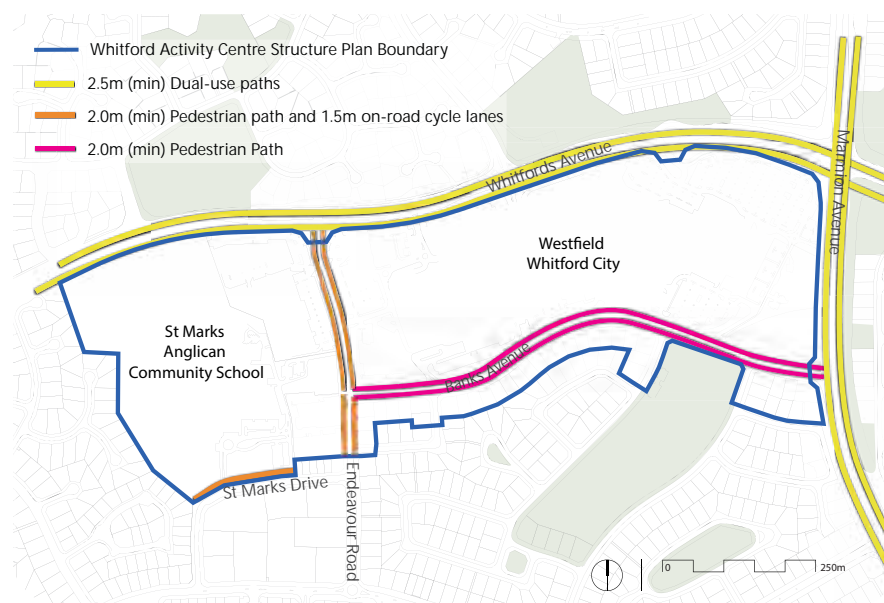


Figure 39. Structure Plan Identified Active Transport

## Roads

An assessment of the impacts on the road network was undertaken based on various assumptions regarding background traffic growth and trip generation. These assumptions were considered conservative as they did not allow for any shift in modal choice or account for future development that may have been accounted for in MRWA's growth rate determination thereby delivering a 'worst case' assessment.

The existing road hierarchy was developed based on both the Main Roads Functional Hierarchy and that as described in the Liveable Neighbourhoods document. The overlap of these hierarchies is described below.

Main Roads Functional Road Hierarchy	Liveable Neighbourhoods	Description	Characteristics
Primary Distributor	Primary Distributor	Regional links	Multi-lane highways
District Distributor A	Integrator A	Arterial links connecting suburbs and centres to regional links	Four-lane, parking, cycle lanes
	Integrator B		Two-lane, parking, cycle lanes
Local Distributor	Neighbourhood Connector A	Sub-arterial links connecting access roads to arterial links	Two-lane divided, parking, cycle lanes
	Neighbourhood Connector B		Two-lane undivided, parking
Access Road	Access Streets	Provides access to property, low speed environment	Undivided, parking indents

The existing road hierarchy is shown in Figure 40 below.

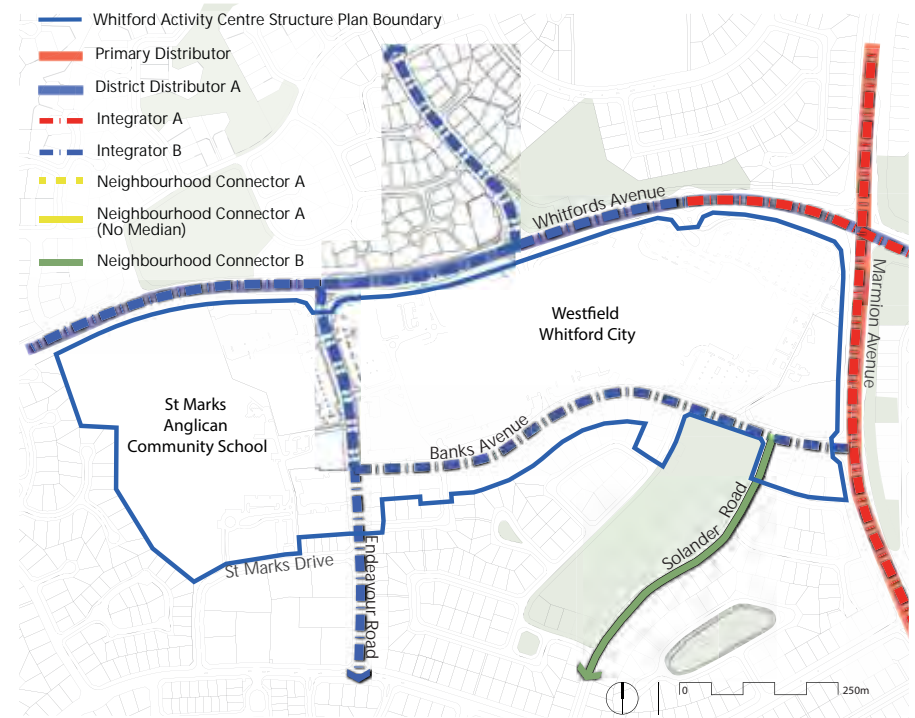


Figure 40. Existing Road Hierarchy

The proposed Structure Plan identifies the following changes to the road hierarchy:

- Endeavour Road between Whitfords Avenue and Banks Road to be a Neighbourhood Connector A to assist the activation of this street and
- Banks Avenue to be a Neighbourhood Connector A but without a median.

The changes to the Endeavour Road cross-section are driven by the desire to convert this street into a more traditional Main Street; slowing traffic down and providing an improved pedestrian environment. Banks Avenue is a street that will mark the transition from the retail core into a more residential mixed use environment to the south. Changes to the cross sections as shown in Figures 42 and 43 will again provide an improved pedestrian environment and on-street parking to service existing and new businesses.

The Structure Plan Road Hierarchy is shown in Figure 41 below.

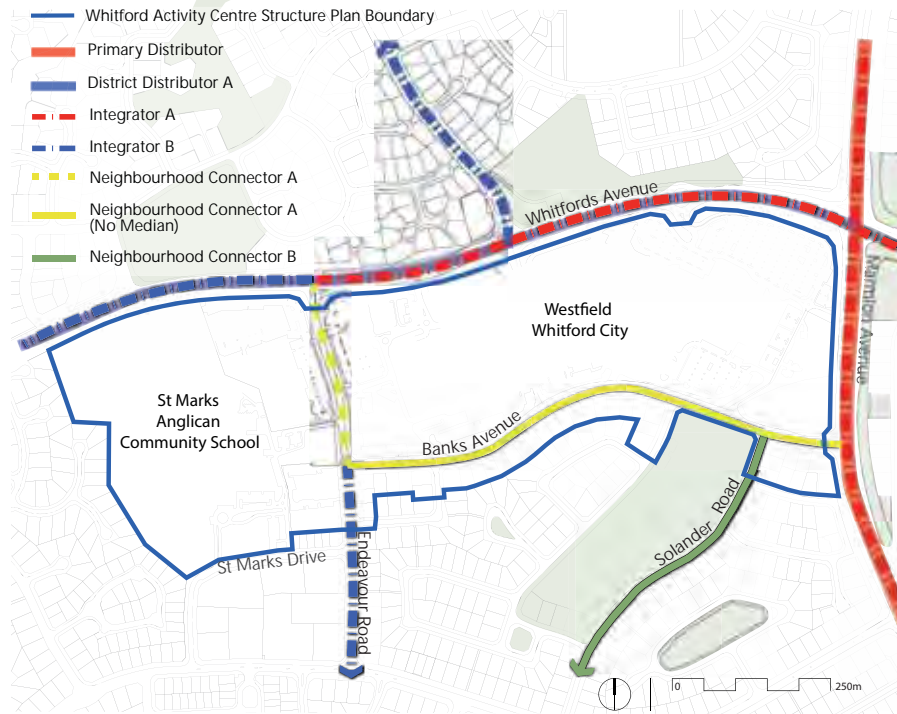


Figure 41. Structure Plan Road Hierarchy

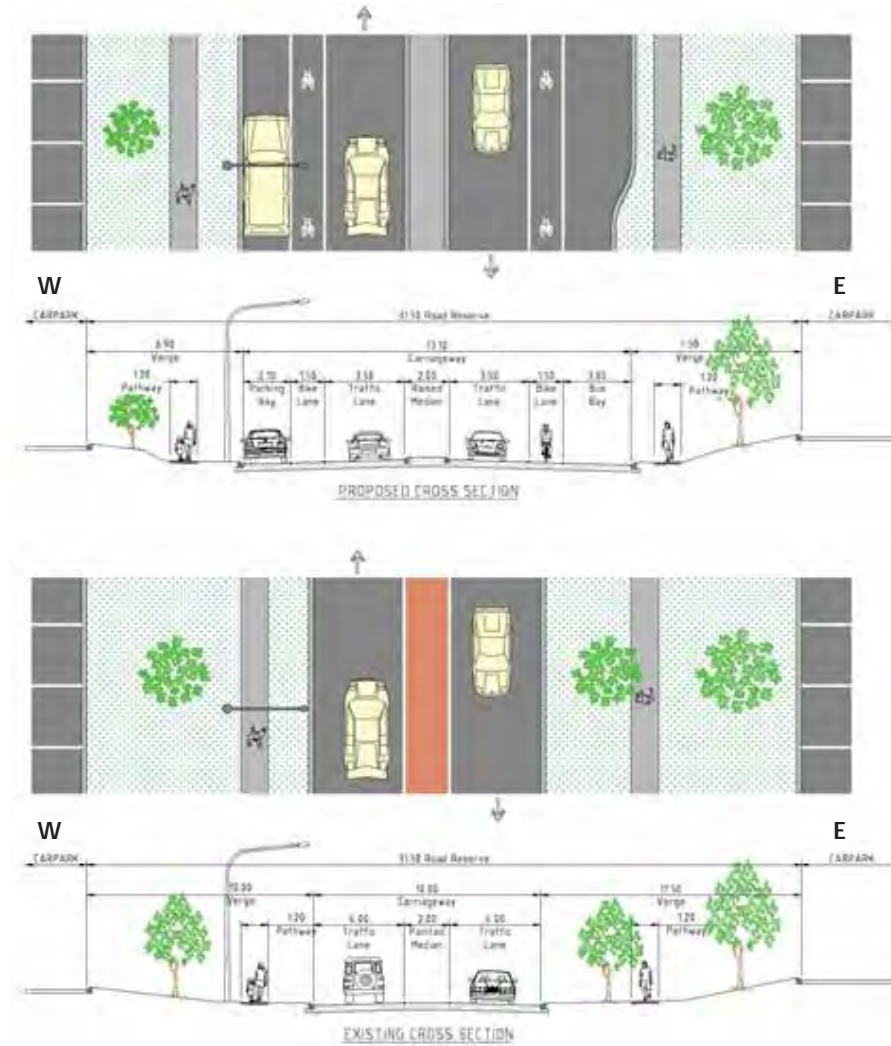


Figure 42. Endeavour Road Cross-Sections

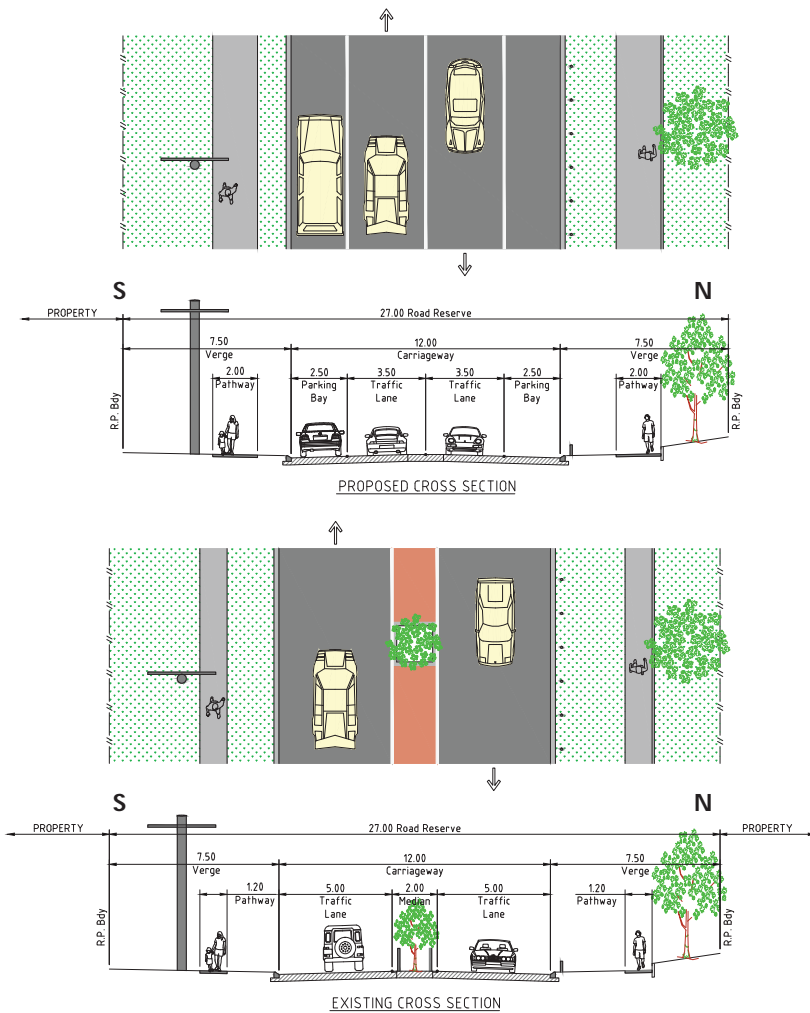


Figure 43. Banks Road Cross-Sections

An assessment of road operations was conducted based on survey data for the year 2012 and trip generation calculations that utilised historical data as well as survey data of the existing Structure Plan uses. The 2012 traffic volumes and operational level of service are shown in Figure 44 below.



Figure 44. 2012 Traffic Volumes

Growth rates as agreed with MRWA were applied to the surveyed data in addition to Structure Plan development generated traffic for the design horizon of 2026. The net traffic generation of the proposed Structure Plan yields by the design horizon was calculated to be 1,498 vehicle movements on a weekday evening peak hour and 1,811 vehicle movements for a Saturday midday peak hour.

The following upgrades were determined:

Intersection	Details of Upgrade
Whitfords Avenue/ Dampier Avenue/ Access 2 (Figure 45)	Additional dedicated approach for buses on eastern arm to allow all-movements exit from Whitfords Avenue Bus Station, stand-up lane for left turns east to south
Banks Avenue/ Access 10 (Figure 47)	<ul style="list-style-type: none"> <li>• 2 lane circulatory carriageway</li> <li>• 4 lanes east to Marmion Avenue/Banks Avenue intersection</li> <li>• 30m through/left turn lane on western approach</li> </ul>
Whitfords Avenue/ Marmion Avenue (Figure 46)	<ul style="list-style-type: none"> <li>• 6 lane cross-section, Marmion Avenue</li> <li>• Additional bus lanes on east and west approaches</li> <li>• 140m double right turn lanes on northern approach</li> <li>• 160m double right turn lanes on eastern approach</li> <li>• 120m double left turn on eastern approach</li> <li>• 140m double left turn lane on western approach</li> <li>• 130m right turn lane on western approach</li> <li>• 200m left turn lane on southern approach</li> <li>• Additional 190m right turn lane on southern approach</li> </ul>
Banks Avenue/ Solander Road (Figure 47)	<ul style="list-style-type: none"> <li>• 4 lane cross-section, Banks Avenue</li> </ul>
Marmion Avenue/ Banks Avenue (Figure 47)	<ul style="list-style-type: none"> <li>• 6 lane cross-section, Marmion Avenue, northern arm</li> <li>• 4 lanes west to Banks Avenue/Access 10 intersection</li> <li>• Additional 30m right turn lane on northern approach</li> <li>• 200m left turn lane on southern approach</li> </ul>

These upgrades are shown in Figures 45, 46 and 47 below.



Figure 45. Bus Station, Whitfords Avenue



Figure 46. Whitfords Avenue / Marmion Avenue Intersection Upgrade



Figure 47. Marmion Avenue / Banks Avenue / Shopping Centre Access Upgrade

The future traffic volumes and operational level of service accounting for the identified upgrades is shown in Figure 48 below.

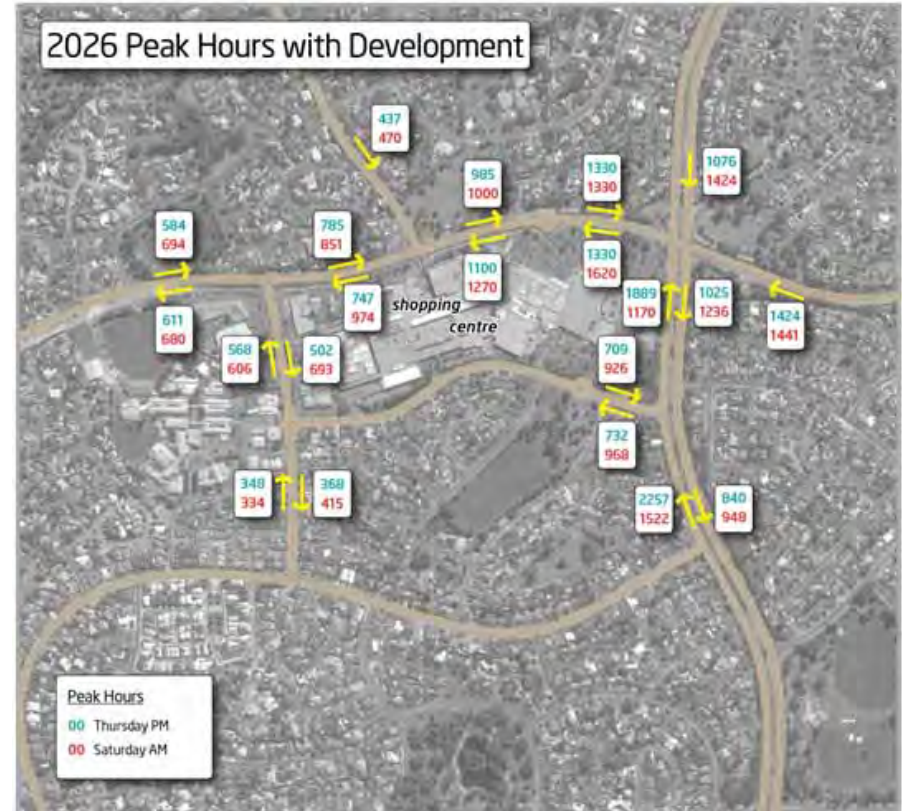


Figure 48. Future Traffic Volumes

## Parking

No particular parking issues are currently evident with the Centre. It is important to note that SPP 4.2 requires the provision of a rate of 4 to 5 spaces per 100m<sup>2</sup> for retail and 2 spaces per 100m<sup>2</sup> for office space. The total parking provision based upon these rates and the Structure Plan yields are detailed below.

DISTRICT	PARKING RATE
Retail District	4.5 bays per 100m <sup>2</sup> NLA
Endeavour District	2.7 bays per 100m <sup>2</sup> NLA
Banks District	2.7 bays per 100m <sup>2</sup> NLA
Education and Civic District	In accordance with District Planning Scheme No. 2

The parking rate of 4.5 spaces per 100m<sup>2</sup> for the Retail District represents a decrease when compared to the existing provision of 4.8 spaces per 100m<sup>2</sup>. This will assist in promoting changes in modal choice and reduce future congestion on the road network. To enable the activation of streets, on-street parking is proposed along Endeavour Road and Banks Avenue.

## Parking Management

On the basis of the principles set out above, and to ensure the parking supply operates efficiently, the following parking management strategies are proposed for the centre:

- Prepare, implement and commit to an overall and dynamic Parking Management and Travel Plan PMTP for Whitford Activity Centre, this may be supplemented by PMTPs for individual land uses to address their specific needs as necessary.
- Provide a communal pool of car parking for all land uses as opposed to dedicated parking spaces.
- Prioritise parking for particular user groups such as ACROD and parents with children.
- Ensure the PMTP includes provision for the management of staff parking to ensure these users do not consume any prime parking.
- Locate parking to ensure major roads around the development are used in preference to lower order streets.
- Conceal parking in basements and behind or above street level properties to promote an active street environment.

### 2.5.3 ACTIVITY

#### Directions 2031

“A prosperous city: Our success as a global city will depend on building on our current prosperity”

“A responsible city: We have a responsibility to manage urban growth and make the most efficient use of available land and infrastructure.”

SPP 4.2 aims to increase both diversity and intensity of activity within existing metropolitan centres that have historically been focused on retail.

In total, there is 94,300m<sup>2</sup> of occupied floorspace across the Whitford Activity Centre. The centre is an established and well-known destination for shopping. When people come to Whitford to shop they will also potentially come for other reasons - to work, to eat, to do business, to recreate, to meet friends and to live. There is an opportunity to build on Westfield Whitford City’s long held, successful reputation as a shopping destination by both improving and updating the existing retail offer and providing a range of other activities, including housing in the centre, to broaden its appeal.

Westfield Whitford City was built in 1978, during a decade of frenetic suburban retail development in Perth. In the subsequent 30 years the centre has been evolving into a multi-functional node of activity with Westfield Whitford City as the primary activity. The existing core around Whitford City comprises of 50,000m<sup>2</sup> of highly productive retail floorspace within a total core floorspace of 79,000m<sup>2</sup> including commercial, entertainment and bulky goods. This core is very active and busy with shoppers particularly during the day, while the surrounding area is less intensively developed, less busy and characterised by low-density residential, education and community activities. Figure 49 indicates the existing spatial relationships of activities.

Figure 50 illustrates the proposed spatial relationship of activities. The intent is to provide a Main Street environment integrating a wide range of uses that will encourage activity throughout the day, an improved public realm and community focus, multi-purpose trips to the centre and walking between destinations within the centre.

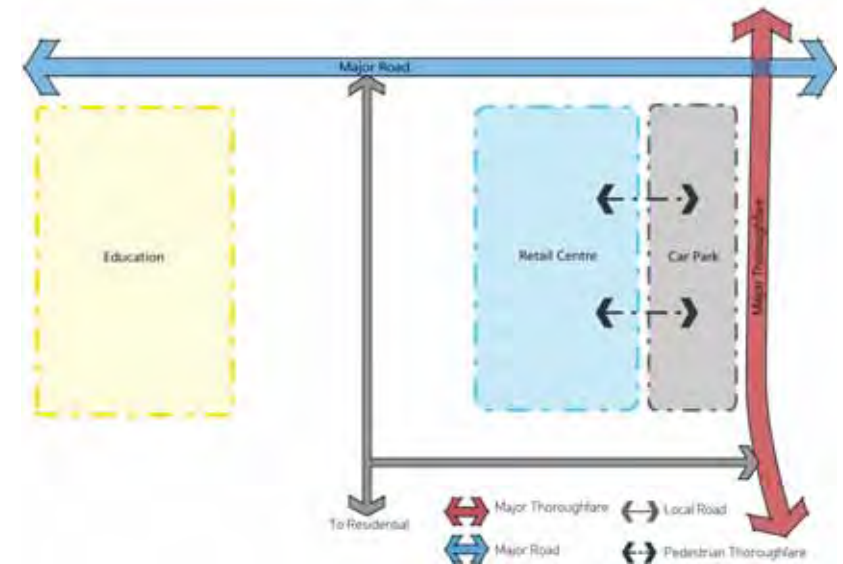


Figure 49. Existing Spatial Relationships of Activities

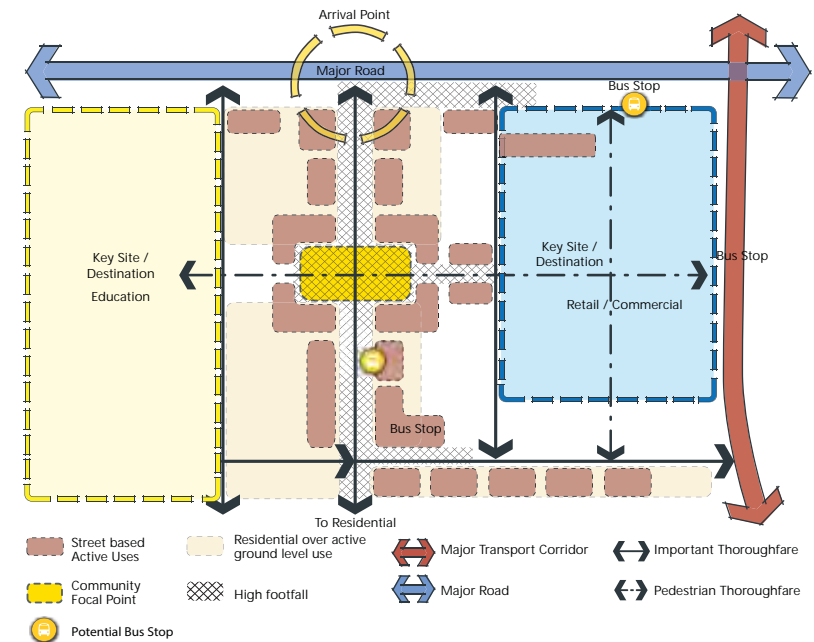


Figure 50. Proposed Spatial Relationships of Activities

## Diversity or 'Mix of Land Uses'

The Diversity Performance Target or 'mix of land uses' outlined in the SPP 4.2 is used to measure the diversity of activity within the activity centre. 'Mix of land uses' includes office, civic, business, health, community, entertainment, cultural uses and showrooms, but excludes residential (refer to Figures 51 and 52).

SPP 4.2 states that for secondary centres, such as Whitford, with greater than 50,000m<sup>2</sup> of retail NLA, the 'mix of land uses' floorspace target is 40%. Currently, Whitford Activity Centre has a 47% 'mix of land uses'. Over the evolution of the Whitford City Retail Core and broader Activity Centre Structure Plan area, this figure is expected to fluctuate. However, by 2026 Whitford Activity Centre will satisfy the Diversity Performance Target with a 50% 'mix of land uses' resulting from other activities stimulated by and following substantial retail development.

Table 1 indicates existing and proposed diversity of 'mix of land uses' in the Whitford Activity Centre.

Mix of Uses	Existing Floor space	2026 Floor space
Other Retail	8 500m <sup>2</sup>	11 500m <sup>2</sup>
Office/ Business	7 800m <sup>2</sup>	22 500m <sup>2</sup>
Health/ welfare/ Community Services	16 200m <sup>2</sup>	23 500m <sup>2</sup>
Entertainment/ Recreation/ Culture	9 500m <sup>2</sup>	16 000m <sup>2</sup>
Other (Including Manufacturing/ Processing/ Fabrication, Storage/ Distribution and Service Industry)	2 400m <sup>2</sup>	4 500m <sup>2</sup>
Total 'Mix of Uses'	44 400m <sup>2</sup>	78 000m <sup>2</sup>
Shop Retail	49 900m <sup>2</sup>	77 500m <sup>2</sup>
Total Occupied Floor Space	94 300m <sup>2</sup>	155 500m <sup>2</sup>
Total Diversity ('mix of uses')	47%	50%

Table 1. Diversity or 'Mix of Land Uses'

Source: PLUS 2008;



Figure 51. Existing Diversity of Activity



Figure 52. Proposed Diversity of Activity

## Employment

As a secondary centre, the economic function of Whitford is fundamentally different from that of higher order centres such as Joondalup. Whitford will service a smaller catchment and offer a different quantity and type of employment opportunities. Given the above, the employment sectors that have the greatest potential for growth at Whitford Activity Centre are predominantly population driven and include: Shop Retail; other Retail; Office Business; Health/Welfare/Community Services; and Entertainment/Recreation/Culture.

The retail core will be a major generator of new employment within the activity centre. Together with the expansion of other activities shop retail, other retail and entertainment, recreation and culture will generate an estimated 1,152 new employment opportunities by 2026. In addition, approximately 814 employment opportunities can be expected from office and business activity within the activity centre. This equates to a total of 2,448 new employment opportunities or almost double the current level of employment within the centre.

Directions 2026 aims to increase employment and self-sufficiency in the North-West Sub-Region from 41% to 61%. This increase equates to an extra 73,000 jobs. Clearly, the jobs anticipated to be generated within the Whitford Activity Centre will be critical in achieving this target.

Compatibility and synergies between different employment generators will increase as the range of activity in the activity centre diversifies. In addition to workplace based jobs, there will be opportunities for small scale home based business with excellent amenity and access to transport in the mixed use areas of Whitford Activity Centre.

Table 2 indicates employment potential at Whitford Activity Centre.

### Office Space

As the sub region matures, Whitford and other activity centres will be able to support a wider range of office space. It is estimated that Whitford could support almost an additional 15,000m<sup>2</sup> to a total of 22,500m<sup>2</sup> office floorspace by 2026.

Activity (PLUC categories)	Existing Employment	2026 Proposed Employment	Gap
Shop Retail (PLUC 5)	1, 983	3, 082	1, 009
Other Retail (PLUC 6)	128	171	43
Office/ Business	416	1 230	814
Health/ Welfare/ Community Services	233	340	107
Entertainment/ Recreation/ Culture	207	307	100
Other (Including Manufacturing/ Processing/ Fabrication, Storage/ Distribution and Service Industry)	90	170	80
<b>Total Jobs</b>	<b>2, 852</b>	<b>5, 300</b>	<b>2, 448</b>

Table 2. Employment potential at Whitford Activity Centre Source: PLUS 2008; Urbis

## Housing

SPP 4.2 aims to increase residential intensity in and around activity centres to meet future housing needs. Whitford Activity Centre is located in a well-established suburban area which consists predominantly of low density single dwellings. The age and quality of the housing stock and the property value of the location will limit organic change in dwelling density in this area. It is anticipated that density increases will occur very gradually as planning controls change and market preference for higher density living prompts redevelopment.

The City of Joondalup Local Housing Strategy nominates the area around Whitford Activity Centre as Opportunity Area 5 (refer to Figure 9 in Planning Context). Table 3 of SPP 4.2 sets housing intensity targets for Secondary Centres such as Whitford at 25 (minimum) to 35 (desirable) dwellings per gross hectare within a 400m walkable catchment. Gross hectare is measured using the urban land coding under the

Metropolitan land coding under the Metropolitan Region Scheme (MRS) and excludes regional roads and regional open space. The applicable area is therefore:

Area of 400m walkable catchment	50.27 Ha
Less area of regional road	- 2.29 Ha
	= 47.98 Ha

This results in a dwelling target range of  $47.98 \times 25 = 1200$  minimum and  $47.98 \times 35 = 1680$  desirable dwellings.

Provision of a significant number of dwellings on the existing commercial land in the centre will go some way toward achieving these housing infill targets. The Indicative Development Plan (Figure 64) illustrates that a yield of about 739 dwellings (which represents a density of approximately 15 dwellings per hectare) is achievable within the centre, predominantly located in the vicinity of Endeavour Road. The dwellings will be mostly apartments above podium parking and mixed use development with some town houses.

It is likely housing will be provided in marketable stages of about 100 dwellings each, released progressively as demand grows. Demand for this housing will grow as the centre evolves into a more accessible and diverse place that offers good amenity and an alternative to the surrounding suburban housing. However, this future demand will lag behind other development such as retail expansion, and therefore, provision of housing will also lag below the projected target band in the early years.

The majority of additional dwellings within the centre will be located on land owned by Scentre Group and specifically the Endeavour District it is anticipated that this district alone will deliver approximately 639 dwellings at a density of approximately 105 dwellings per hectare.

## Residential Density Coding

Residential density within the Banks, Retail and Education and Civic Districts is proposed as R80 to provide a transition between the retail and mixed use areas and the existing housing to the south of the centre.

The Endeavour District is subject to separate development standards that will guide residential development and densities.

## Retail

The Retail Sustainability Assessment (RSA) prepared by Urbis for Whitford Activity Centre is included as Appendix B1. The purpose of the RSA is to justify the retail shop floorspace proposed in the context of the North-West Sub-Region, Joondalup municipality, and the Whitford Activity Centre catchment, its classification as a Secondary Centre in the hierarchy, and the impact of neighbouring centres. The main findings and conclusions of the RSA are detailed below.

### An Established Destination

Whitford Activity Centre, by way of the Westfield Whitford City shopping centre, has been performing an important shopping function for residents of the middle and outer northern coastal suburbs of Perth since it opened in 1978. The centre provides a key destination for both convenience and discretionary shopping needs. It is strategically located at the intersection of Marmion Avenue and Whitfords Avenue and easily accessible from existing and developing northern coastal suburbs of Perth. The centre is also well served by the suburban bus network with several routes linking with the Whitfords train station.

### Whitford Trade Area

Whitford Activity Centre draws trade from throughout the North-West Sub-Region and beyond, notably the immediate suburbs to the south. Based on exit survey information and key trade area definition parameters, the main trade area extends between 5 and 7 km from the centre. Reflecting the typical dispersed nature of shopping patterns, some 25% of retail turnover at Whitford Activity Centre is sourced from markets outside this main trade area. This is and will continue to be an important market for retail at Whitford Activity Centre.

The main trade area for Whitford Activity Centre currently contains approximately 153,000 residents, which is within the indicative guidelines for secondary centres as set out in SPP 4.2. Over the period to 2026, the main trade area population is forecast to increase to around 175,000 people. In the North-West Sub-Region of Perth resident population is forecast to increase from 322,000 residents in 2011 to over 500,000 by 2031, an increase of more than 180,000 people.

### Projected Retail Spending

Ongoing population growth and real growth in retail spending per capita will increase the size of the retail market available to Whitford Activity Centre and other centres throughout the region. Within the main trade area, retail spending is forecast to increase by \$152 million between 2014 and 2017 and \$868 million between 2014

and 2031. Retail spending by residents in the North-West Sub-Region is forecast to increase by about \$3.4 billion to 2031 (all expressed in constant \$2014 excluding GST). This growth in retail spending will increase demand and market capacity for more retail (shop) floorspace at Whitford and other centres in the region.

### Activity Centre Hierarchy

Joondalup serves as the Strategic Metropolitan Centre for the middle to outer northern coastal region of Perth. There is also several Secondary Centres in the general area, including Wanneroo, Clarkson and Warwick. These centres are smaller in scale and do not have as prominent a retail role as the Whitford centre. Within and on the border of the main trade area there are 5 District Centres which complement Whitford as one of the highest order centres in the area. The assessment allows for new retail development at several centres including Joondalup, Clarkson and Madeley.

### Trading Performance

Whitford is a popular centre and trades well with average turnover productivity more than 16% higher than comparable centre benchmarks. The centre's market share however is low at 13.2% of main trade area retail spending. This premium trading performance but low market share indicates there is good market capacity for a broader range of retailing at the Whitford centre.



## Supportable Shop Floorspace

The market need and demand in support of expansion of Whitford Activity Centre to 75,000m<sup>2</sup> by 2017 and 77,500m<sup>2</sup> by around 2020 is demonstrated by the following:

- The major shopping centres in the North-West Sub-Region are generally trading well and above industry benchmarks, indicative of demand being in excess of supply. This is the outcome from PLUC 5 shop floorspace in the main trade area increasing by only 5% since 2004 despite retail expenditure increasing by a substantially higher 30%. Development of new PLUC 5 shop floorspace has not kept up with demand and there is a need to address this historical shortfall.
- The potential benefits that could be realised through greater levels of retail activity at Whitford and other activity centres in the region are being lost.
- The continual regeneration and gentrification of existing households coupled with ongoing population and retail spending growth will drive demand for more shop floorspace and an improved range and quality of shops, services and built form environments.
- The demand for PLUC 5 shop floorspace is forecast to grow strongly on the back of population growth and increasing retail spending rates. Between 2014 and 2017, the main trade area retail market is forecast to grow by \$152 million from 2014 to 2017 and \$716 million from 2017 to 2031 (\$2014 excl. GST).
- The proposed expansion of the Whitford centre to 75,000m<sup>2</sup> of PLUC 5 shop floorspace by 2017 and 77,500m<sup>2</sup> from 2018 to 2020 can be supported by the market and is necessary to ensure the shop floorspace needs of residents of Whitford's main trade area and wider North-West Sub-Region are adequately met.
- Whitford, as a key higher order centre in the hierarchy and reflecting its existing role as a prominent fashion destination, will need to play a significant role and serve as a major contributor to the delivery of shop floorspace demand.
- The expansion of PLUC 5 shop floorspace and improvement of the overall offer and shopping environments will be integral in addressing the challenges that centres are facing in light of the growth of online retailing and capitalising on the opportunity presented by the universal introduction of Sunday Trading in Perth. The planned expansion of Whitford will also provide a higher quality shopping experience and offer that better aligns with the needs of residents and local workers.

- The proposed expansion of Whitford Activity Centre to 75,000m<sup>2</sup> by 2017, would account for around 18% of main trade area expenditure. About 82% or \$1.8 billion of retail spending by main trade area residents would still be available for other centres in the Joondalup municipality and wider region.
- The market shares required to support the proposed expansion of PLUC 5 shop floorspace at Whitford are within benchmarks for a department store anchored centre. Whitford therefore will capture its fair share of the market for a Secondary Centre while leaving sufficient market demand to support the intended role of centres in the hierarchy.



## Impact Assessment

Impact modelling undertaken by Urbis indicates that:

- The development of Whitford Activity Centre to provide 75,000m<sup>2</sup> of PLUC 5 shop floorspace by 2017 and 77,500m<sup>2</sup> by 2020 is appropriate in scale and can be supported by the market without affecting the development potential of other centres in the hierarchy.
- The assessed level of impact on any one centre is manageable and the proposed expansion would not adversely impact the role, function and viability of other activity centres.
- A significant share of the impacts will be the result of a redirection of retail expenditure away from centres outside the Joondalup municipality. More expenditure undertaken locally will provide greater support for other uses, serve as a catalyst for other investment in centres and generally support the development of larger, vibrant and successful activity centres.

The primacy of Joondalup will not be impacted reflecting:

- The Joondalup activity centre will continue to have a substantially larger and diverse range of retailing and services.
- The proposed expansion of Whitford will not impact the important unique functions of the Joondalup activity centre (e.g. municipal offices, Edith Cowan University, office uses, etc.) which are integral to its primacy in the centre hierarchy.
- The retail impacts will not adversely impact retail based visitation of the Joondalup centre and strong market growth will support the ongoing retail expansion of Joondalup Activity Centre as well as development of new non-retail uses.

In conclusion, the proposed expansion of the Whitford Activity Centre to 77,500m<sup>2</sup> is supportable by market demand and will not impact the role and viability of other centres in the hierarchy and the community will benefit from enhanced access to retail goods and services over time.

## Other Retail

According to the Perth Land Use Survey, in 2007 Whitford had 8,500m<sup>2</sup> of Other Retail floorspace, including bulky goods such as furniture, hardware, floors coverings, tiles, light fittings. Recognising the size of the main trade area market and future growth demand, a larger supply of Other Retail floorspace could potentially be supported at Whitford Activity Centre. However, given site constraints, the potential to add additional Other Retail facilities which are typically characterised by larger format retailers requiring on-grade car parking, is limited. A reasonable provision would be in the order of 11,500m<sup>2</sup> or about 3,000m<sup>2</sup> more than currently provided. This could be developed at Whitford between 2017 and 2022.

## Community, Health and Welfare

Existing facilities, including the Whitford Senior Citizens Centre, Whitford Family Centre, Jean Beadle Centre, St Marks Anglican Community School and the Whitford Public Library will be retained and enhanced as required to meet the needs of the local community and wider population.

## Education

Whitford Activity Centre currently contains St Marks Anglican Community School which consists of 1500 students and 100 staff. This Structure Plan does not preclude the expansion of the school. There are also 2 senior high schools and 5 primary schools within approximately 1km of the centre.

## Entertainment, Civic and Culture

Westfield Whitford City currently has a range of entertainment uses including a tavern, six-screen cinema complex and an amusement centre totalling 5,883m<sup>2</sup> and 9,500m<sup>2</sup> of civic and cultural floorspace.

There is market opportunity for a broader range of entertainment uses, recognising the growing demand for experiential activities by consumers. Having regard to market demand and the role of Whitford there is to provide an additional 6,500m<sup>2</sup> of entertainment, recreational and cultural uses at the activity centre by 2026.

## Centre Performance Scores

The setting of targets for activity centres does not address how the centre will mature over time. This maturation process will be driven by the quality of economic activity rather than simply its quantity and is important to consider as different elements of activity (and therefore performance measures) are interrelated, with some occurring earlier and acting as a precursor for later activity.

In the case of Whitford Activity Centre, maturity modelling shows how activity centre performance across intensity, diversity, employment and accessibility measures changes over the 10 years to 2026.

The key observations are:

- Increased intensity (particularly residential) and diversity performance is reliant on improvements in accessibility.
- Employment performance will initially depend on population-driven, consumer services before significant agglomerations of activity drive the presence of knowledge intensive consumer services and producer services.

All performance measures are expected to improve with the development plan for Whitford activity centre

In response to market demand and an appropriate allocation to the Whitford Activity Centre, the following would be provided by 2026:

- 5,300 jobs (2448 additional).
- 22,500m<sup>2</sup> (14,700m<sup>2</sup> additional) office.
- 77,500m<sup>2</sup> (27,600m<sup>2</sup> additional) shop retail.
- 11,500m<sup>2</sup> (3,000m<sup>2</sup> additional) bulky goods.
- 16,000m<sup>2</sup> (6,500m<sup>2</sup> additional) entertainment, recreation and cultural.

Figure 56 indicates the current and future performance scores for Whitford Activity Centre.

The current and future “Diversity” scores exceed the minimum 40% diversity target required by SPP 4.2. It is also important to note that whilst the Whitford Activity Centre will mature to function as a more mixed use based centre, it does and will always have a larger retail component as compared to other smaller secondary centres. Furthermore, given the centres proximity to Joondalup, there is limited capacity and ability to provide additional commercial/office floor space that is and should be predominantly provided for by Strategic Metropolitan Centre such as Joondalup.



Figure 53. Centre Performance Scores

Source: Urbis

## 2.5.4 RESOURCE CONSERVATION

### Directions 2031

*A sustainable city - we should grow within the constraints placed on us by the environment we live in*

Whitford Activity Centre will represent best practice sustainable development through increased intensity of uses including housing close to public transport; efficient use of scarce inner urban land and more effective use of resources and transport. This will be achieved through a range of measures including promotion of public and active modes of transport and through building and public space design.

The existing buildings at Whitford Activity Centre are of a variety of ages and generally do not comply with current best ESD practice. Redevelopment will provide an opportunity for innovative and best practice building design, construction and management. This is particularly important in a large retail core where energy demands are high. Scentre Group will adopt 4.5 star green star specifications (pilot) for any development within Whitford Activity Centre. Buildings will be designed to meet objectives such as to:

- Protect occupant health and improve employee productivity.
- Use energy, water, and other resources more efficiently.
- Reduce overall environmental impact.

Both building shells and tenancy fit-outs will be subject to green star specifications. In addition, Section J of the Building Code of Australia now requires energy efficiency in buildings and the National House Energy Rating Scheme (NatHERS) (minimum 5 Star) will be applicable to residential development. Where appropriate the reuse of existing buildings will be considered to contribute to resource conservation.

### Energy

Energy saving will be promoted through encouraging alternatives to car travel with improved public transport, better pedestrian connectivity, walkable streets, cycle access and end of trip facilities. Buildings will be climate responsive with orientation for optimum solar access, natural ventilation, and daylight; and a thermally efficient building shell. Energy efficiency will be achieved through such measures as high-efficiency lighting systems with advanced controls and appropriately sized, energy-efficient air conditioning systems.

Renewable energy use will be optimised including use of solar water heating and on-site energy generation. Renewable energy and district-wide sources could be incorporated at Whitford Activity Centre subject to life cycle costing. This could include PV solar panels that also provide shading to car park decks as well as investigation into wind and geothermal energy in the future.

### Materials and Waste

Whitford Activity Centre will adopt sustainable strategies for material use and waste both in construction and during occupancy. In retail development this can be significant as there are refurbishments on a regular basis and material reuse is often limited.

### Groundwater and Surface Water

Consultants Essential Environmental were engaged to undertake a water balance report to identify and quantify opportunities for efficiency and innovation in water servicing for the site based on currently available information. The water balance report provides an estimate of the various water demands in the study area with consideration of land use, resident and student populations, water consumption records (where available) and typical Perth water consumption information from the Water Corporation. A copy of the Water Balance Report is provided as Appendix B4.

Key matters that were identified in the Water Balance Report include the following:

- Existing water used in the study area is sourced from the Water Corporation's Integrated Water Supply Scheme and from a number of privately operated groundwater bores.
- There are 3 listed groundwater abstraction licences in the area, including:
  - 22,000kL/year held by Scentre Group.
  - 40,500kL/year held by St Marks Anglican Community School.
  - 1,905,050kL/year held by the City of Joondalup for multiple properties.
- It is estimated that based on a 'business as usual' scenario total water demands for the Activity Centre Structure Plan area will increase from 158,233kL/year (Integrated Water Supply Scheme) to 312,610 kL/year, with groundwater demand continuing at approximately 48,000 kL/year.
- Potential demands savings of 50,000kL/year associated with the Integrated Water Supply Scheme could potentially be achieved through increased efficiency and use of alternative 'fit-for-purpose purposes', including groundwater, rainwater and recycled water.
- Consider opportunities to incorporate fit-for-purpose water supplies through development of a local scale water balance which investigates opportunities to:
  - Recycle greywater from public bathroom basins for use in public toilets.
  - Harvest stormwater from roof areas for use in public bathroom basins.
- Develop and implement design guidelines which require water use efficiency measures to be implemented in private and public open spaces and within developments, including:
  - water efficient fixtures, fittings and appliances, including WELS (Water Efficiency Labelling and Standards) rated flow controllers, toilets, taps and urinals.
  - landscaping which incorporates the use of waterwise gardens, rain gardens, smart irrigation systems, and use of alternative sources of water.
  - smart metres for water use in all new developments.
- Incorporate fit-for-purpose supply options and requirements into design guidelines.

The Activity Centre Structure Plan makes provision for the implementation of a water efficiency strategy, based on the following actions:

- Maximise efficiency of groundwater usage for irrigation of any additional open spaces through appropriate landscape design so that additional allocations are not required.
- Consider opportunities to reduce irrigation needs of existing open space areas through re-landscaping and hydrozoning, whilst retaining drainage and recreational functions of these areas.

## 2.5.5 UTILITIES

An assessment of existing utilities and future requirements was completed by consultants Cardno and supplemented by additional investigations undertaken by Wood and Grieve Engineers (2015). Their report is provided as Appendix B2 to this Structure Plan. The following provides a summary of the key findings and Figure 54 overleaf illustrates the existing utilities within Whitfords Activity Centre.

### Gas

ATCO Gas own and maintain the mains gas reticulation in the area. It is understood that the existing network has sufficient capacity to support the anticipated growth within the Structure Plan area. As the existing gas reticulation traverses the shopping centre development area, it is not anticipated that any additional mains supply will be required.

There is a 155mm diameter medium pressure main running along Whitfords Avenue and a 50mm diameter along Endeavour Road, providing gas services for the Endeavour District development. Some upgrading of meters may be required, depending on the final requirements of Alinta. It is not expected that access to gas will be a significant constraint on development within the Structure Plan area.

### Power

Western Power is the governing authority for the management and production of power in Western Australia. A detailed feasibility study will be required and it is proposed that such a study be completed in parallel with the progression of the Structure Plan and ahead of any significant development within the Structure Plan area. It is considered that any need for upgrading to existing substations and/or construction of new substations can be readily accommodated within the Structure Plan area.

Capacity within the existing power network may be a constraint in the short-term, however the progressive significant development of the Structure Plan area is capable of being effectively planned for, in conjunction with Western Power. Overall, it is not expected that access to power will be a significant constraint on development within the Structure Plan area.

### Telecommunications

Telstra currently service the Structure Plan area through 2 x 200 leader cables, providing for 400 connections. Depending on detailed design, and if there is the need for in excess of 400 connections, an additional leader cable may be required and it is understood that this can be pulled through the existing pit and pipe network.

With regard to the proposed residential component of the development, a much larger amount of cabling and trenching will be required. It differs from the shopping centre in that there is not one central leader cable that can service all the residences. Each dwelling will require a separate cable and connection which would increase costs due to traffic management as well as the material and trenching expenses. It is not expected that access to telecommunications infrastructure will be a significant constraint on development within the Structure Plan area.

### Water

Currently there is infrastructure within the Structure Plan area including a 150mm concrete water reticulation pipe along Banks Avenue and a 610mm distribution main running along Whitfords Avenue and Marmion Avenue. With the proposed increase in commercial area, new residential development at the Endeavour District and an increase in building density in the Banks District; it is anticipated that demand may increase from 350-400L/min at peak times to between 800-900L/min. A full breakdown of the anticipated annual consumption for the commercial area development is provided within the water balance report provided as Appendix B4.

To accommodate the proposed developments within the Structure Plan area, some upgrading of water infrastructure is expected to be required. Water Corporation have provided initial feedback and do not anticipate significant upgrade works. However, detailed analysis of the network capacity at this early stage of the development proposal process has not been completed.

The maximum anticipated upgrade works to cater for the increased demand includes an extension of 220mm reticulation main along Endeavour Road for a length of ~225m. This will link a dead end to the 610mm distribution main on Whitfords Avenue, providing increased pressure and flow for the Endeavour District development. Additional upgrade works required to service the WACSP area include the extension of the 150mm reticulation main running along Banks Avenue from Solander Road to the 610mm distribution main on Marmion Avenue.

The above referenced upgrades are expected to cater for the full development of the WACSP area. As the majority of the additional demand will be generated from the Endeavour District and increase in the shopping centre activities, it is expected that the proponents of these developments will fully fund the reticulation upgrades negating any need for cost sharing between multiple landowners. Any major 'headworks' infrastructure, if required, would typically be funded by the Water Corporation.

It is not expected that access to water related infrastructure will be a significant constraint on development within the Structure Plan area.

### Wastewater

A detailed feasibility study regarding the potential upgrades that may be required has been completed and conveyed to Water Corporation. The Structure Plan area currently traverses 3 Water Corporation catchment areas, 2 transporting waste to the north at Dampier Avenue (PS#2) and Contest Close (PS#14) pump stations; with the other transporting wastewater to the south at Mawson Crescent (PS#1). As a result the increase in flow to each pump station is ~1.8-3.5L/sec. It is expected that the pump stations will have adequate capacity to handle this increase in flow. Water Corporation have provided in principle support for the development but have not provided exact upgrade requirements at this stage. It was highlighted by Water Corporation that there may be the need for upgrade of gravity sewer pipes downstream from the proposed development.

The area most likely to require pipe upgrade is from the development on the western side of Endeavour Road. The gravity sewer is 150mm diameter from the current Bunnings site to the pump station at Contest Close (PS#14). With ~200 houses already discharging to this line and an additional 3.5L/sec added from the development of the western Endeavour precinct, it is expected that this line will be close to capacity and may require upgrade towards the end of line.

Sewer from the eastern Endeavour precinct outfalls to the south of site towards Mawson Crescent (PS#1). The gravity sewer appears to have capacity to accept the additional flow from the development.

The Retail District sewer outfalls towards Dampier Avenue PS#2. It is anticipated that the pump station and associated pipework will not require any additional upgrade works.

As the majority of additional demand will be generated from the Endeavour District and increase in shopping centre activities, it is expected that the proponents of the development in the District will fund necessary upgrades at the time of development. Any major 'headworks' infrastructure, if required, would typically be funded by the Water Corporation.

It is not expected that access to sewer related infrastructure will be a significant constraint on development within the Structure Plan area.

### Drainage

The existing Retail District catchment is predominantly impervious (hard surface) therefore any further development within the catchment would arguably require minimal upgrade to the existing detention/ infiltration capacity of the existing system. There is the possibility that existing detention/infiltration capacity may need to be upgraded. The Retail District will require approximately 5,000m<sup>3</sup> of total detention/ infiltration capacity. Further detailed assessment and design will be required ahead of any significant development within the Structure Plan area.

The development area does present the opportunity for the reuse of stormwater for irrigation and greywater, as part of the detailed planning for the site. The water balance report prepared by Essential Environmental is provided as Appendix B4. It is not expected that access to drainage related infrastructure will be a significant constraint on development within the Structure Plan area.

All other subdivision and development is to manage stormwater to the satisfaction of the City of Joondalup at the time of application.



Figure 54. Site Utilities

This page has been left blank intentionally

## 2.6 PROPOSED ACTIVITY CENTRE STRUCTURE PLAN

The WACSP provides a framework for future development within the boundary of the Whitford Activity Centre, consistent with Directions 2031 and beyond and SPP4.2. It has been prepared having regard to the WAPC's employment and housing targets and to the demographic and socio economic context of the North-West Sub-Region. The existing site conditions and the Model Centre Framework considerations described in the previous chapters have also been taken into account.

This section describes the various elements of the Structure Plan including:

### 2.6.1 VISION AND OBJECTIVES

### 2.6.2 Structure Plan MAP

### 2.6.3 DISTRICT DESIRED CHARACTER

### 2.6.4 INDICATIVE DEVELOPMENT PLAN

### 2.6.1 VISION AND OBJECTIVES

The overall vision for the Whitford Activity Centre is:

Whitford Activity Centre will become the vibrant commercial, cultural and residential heart of Hillarys and the wider area. Some people will live in the centre, while others will visit to work, learn, be entertained, to meet others, or to participate in community and cultural activities. Changing lifestyle demands, sustainability considerations and an overriding objective to satisfy the needs of the local community and wider metropolitan area, will drive the future urban structure and physical fabric of the activity centre. The intensity of the urban form and the blending of uses will foster accessibility, with emphasis on walking, cycling and public transport. The everyday experience of the Main Street will make it as easy and attractive to walk, cycle or take public transport, as it is to travel by car. A diverse mix of activities, including a more diverse range of housing types, will promote day and night time activity in an interesting and safe environment.

Successful transformation of Whitford Activity Centre in the next 10 years will be reliant on continuing successful retail activity acting as a catalyst to attract other activities. The retail core will provide the intensity and visitation necessary to stimulate and support other diverse activities leading to an increased range and intensity of employment within the centre.

Redevelopment of the retail core in response to market demand in the next few years will facilitate the amenity and urban structure to support apartments and other dwellings, thereby increasing residential intensity and diversity in the centre. This increase will contribute to state and local government housing targets, whilst limiting detrimental impacts on the amenity of the surrounding suburbs.

Contemporary urban form will be showcased and set in tree-lined, pedestrian scaled streets. The various design elements will come together to create an activity centre of intensity and substance that is distinct from, although integrated with, the surrounding areas and has a unique and appropriate sense of place.

The objectives of the WACSP are to provide:

### **Context**

Development guidance consistent with Whitford Activity Centre's role and function as a secondary centre as defined by SPP 4.2.

### **Movement**

Access to an improved regional high frequency bus service and a cycle network connecting Whitford with other sub regional attractors, the Whitfords train station and the Perth CBD.

A public realm that encourages walking and use of alternative modes of transport whilst enabling adequate access and parking for private vehicles, to ensure a wide range of activities where high visitation can flourish.

### **Activity**

A focus for intense and diverse retail, commercial, residential, education, community and cultural, entertainment and leisure activities to serve the catchment population; and that are complementary to other centres in the North-West Sub-Region and the City of Joondalup.

Appropriate levels of hard and soft infrastructure for these activities to co exist and flourish at Whitford as an important community node.

A local employment focus contributing to employment self sufficiency targets for the North-West Sub-Region and the City of Joondalup.

### **Urban Form**

A robust and flexible urban structure and built form that is responsive to changing community aspirations and increased intensity and diversity of activity, whilst respecting the amenity of surrounding residential areas.

A vibrant and pedestrian friendly street based public realm.

A unique and appropriate visual character and identity using high quality architectural, spatial and landscape design.

### **Resource Conservation**

Reduced dependency on private cars thereby reducing energy consumption through aggregation of activities in a walkable centre and improved public transport access to the centre.

Energy and water efficiency in buildings and open spaces through application of ESD principles.

### **Implementation**

A development framework that provides certainty for staged investment, whilst offering flexibility to account for changing market conditions and community needs.




















## 2.6.2 STRUCTURE PLAN MAP

The Structure Plan Map (refer to Figure 55) indicates the general planning framework for land within the WACSP boundary. 4 districts are defined within the centre boundary. A new Main Street district (Endeavour District) is proposed along Endeavour Road as the focus for increased intensity and diversity of activity within the centre. 3 other districts, with different functions and characters are shown adjacent and connected to the Main Street district to the west, east and south.

The Structure Plan Map indicates residential density coding applicable to each district. Housing is encouraged to provide for people to live within walking distance of the amenities of the centre and an increased diversity of dwelling choice. The focus for this housing will be the Endeavour District with housing also encouraged in the Banks and Retail Districts.

The Structure Plan Map indicates key movement and access elements within the centre. Primary vehicle access points are also indicated on the map.

The Structure Plan Map indicates 4 landmark and community focal point locations within the centre. These locations are within the Retail and Endeavour Districts. Development standards for these landmark locations are included in Part 1 Statutory Section with the intention of enhancing the sense of arrival and place at the centre.

-  Whitford Activity Centre Structure Plan Boundary
  -  District Boundary
  -  Existing Lot Boundary
- Districts**
-  Retail
  -  Banks
  -  Endeavour
  -  Education and Civic
- Residential Coding**
-  R-AC0(b) - Refer design standards for Endeavour District
  -  R80
- Other**
-  Main Street
  -  Landmark Site
  -  Community Focal Point
  -  Primary off street pedestrian connection
  -  Future vehicle connection
  -  Primary vehicle access point
  -  Primary vehicle access point (Left-in/ left-out only)
  -  Existing controlled intersection (Traffic Lights)
  -  Future bus stop
  -  Prominent pedestrian entrance

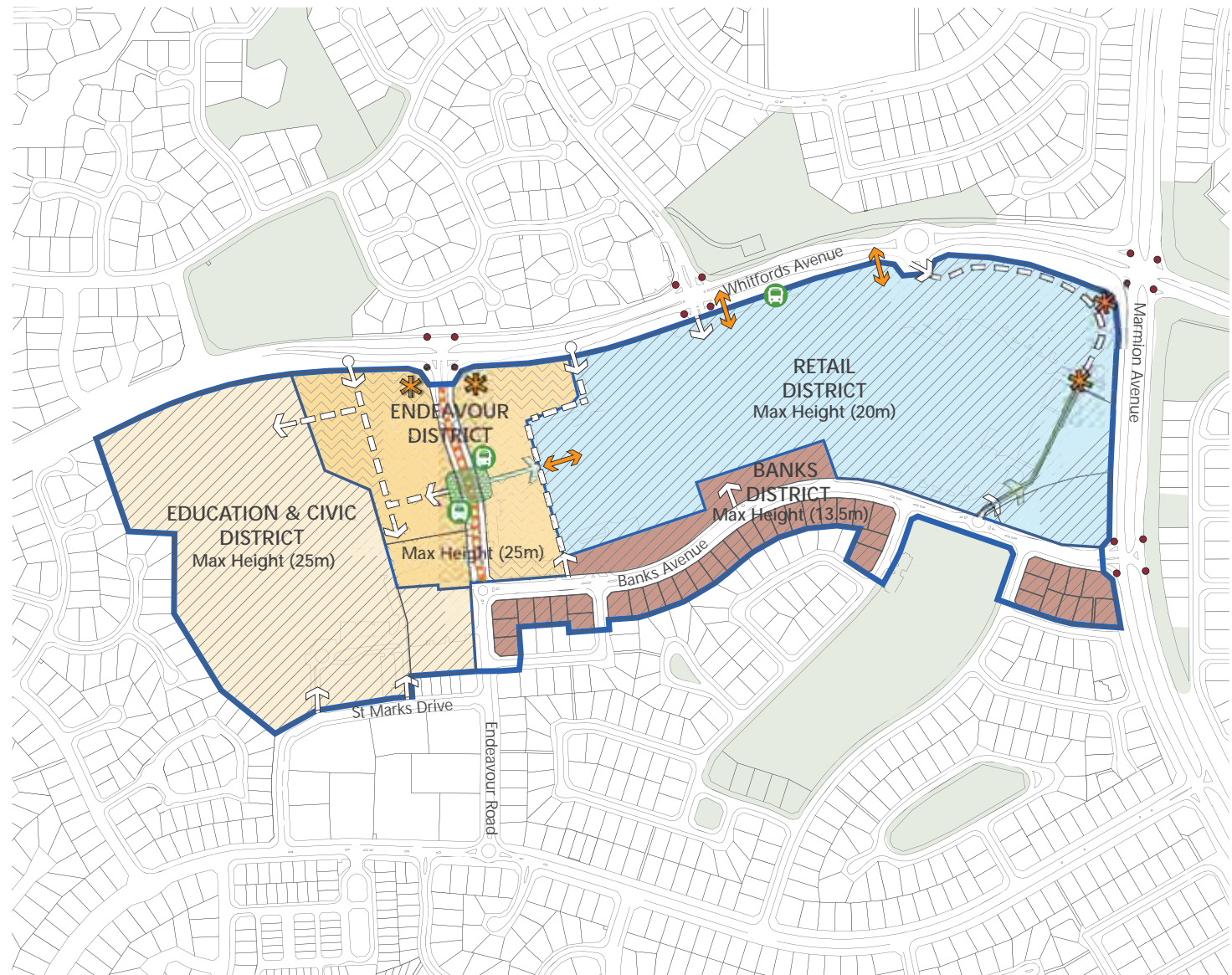
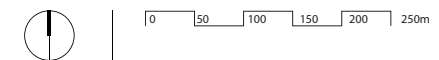


Figure 55. Structure Plan Map



### 2.6.3 DISTRICT DESIRED CHARACTER

Each district indicated on the Structure Plan Map has a proposed desired character and objectives for future development. The desired character for the 4 districts is described below and also included in the Part 1 provisions of this document.

#### Endeavour District

The Endeavour District will become an intense and diverse urban environment with a focus on street based activity. It will be vibrant, well landscaped and pedestrian friendly and will provide a diverse range of activity including housing, shops, offices and community uses. Activities that contribute to evening street life and provide interesting and activated frontages will be encouraged.

The focus of the district will be the Endeavour Community Plaza which will connect the retail district with the Education and Civic District; it will become a community meeting place for surrounding residents and visitors to the centre. The space will be activated by a ground floor and upper level plaza providing a community hub and focal point for the Endeavour District. Retail, cafes and restaurants will activate the upper level plaza creating a vibrant destination and reinforcing the connection between Retail and Endeavour Districts (refer to Figure 57).

Residential buildings along Endeavour Road will be activated at ground level within retail and commercial uses creating an active streetscape. More broadly, building heights of 3 to 5 storeys will be encouraged throughout the district with taller landmark buildings at the intersection of Whitfords Avenue and Endeavour Road.

The Endeavour District Indicative Development Plan (refer to Figure 58) provides guidance as to the development intent for the District including preferred street layout, public realm and built form outcomes. The key elements of the indicative development plan are described below.

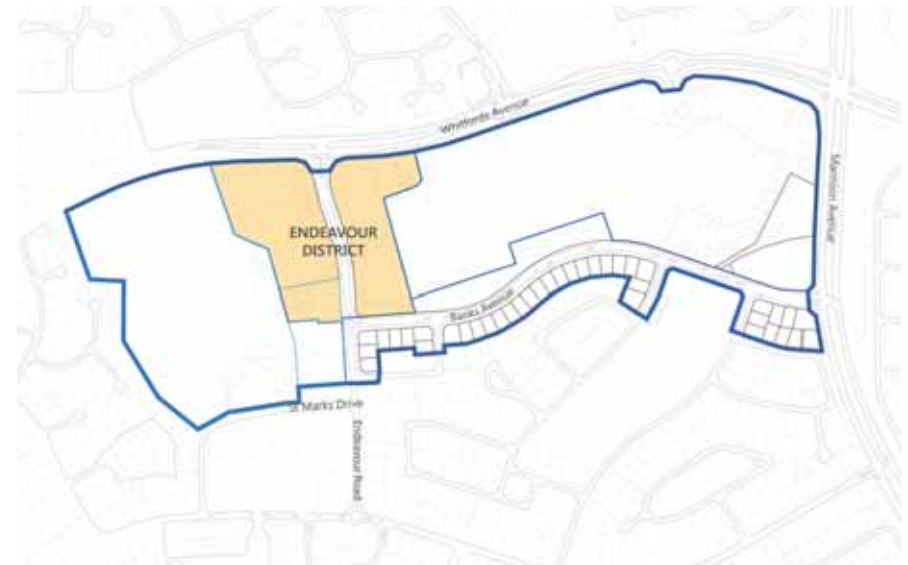


Figure 56. Endeavour District Location Map

Figure 57. Endeavour District - Retail District Cross Section





Figure 58. Endeavour District Indicative Concept Plan

## Endeavour Road - Main Street

Endeavour Road will become a new Main Street environment and key defining component of the district. The Main Street will be a more intimate environment with active uses along key portions of the street. Providing direct connections to this environment from the retail core is a key objective of the Endeavour Road Indicative Development Plan (refer to Figure 58). Buildings on both sides of Endeavour Road will be activated at ground level with shop/retail/community/commercial land uses to reinforce the Main Street environment. Continuous awning coverage and minimum glazing standards will ensure ground floor development relates strongly to the street.

The delivery of Endeavour Road as a Main Street will establish a clear hierarchy of streets within the district in that Endeavour Road will function as the highest order road. Vehicular access to the built form will be via a lower order internal public road network, reinforcing this hierarchy. Opportunities for access to the District from St Mark's Anglican School are supported.

## Public Realm and Pedestrian Connectivity

The design includes a central east-west spine to create a strong connection that supports the north-south Main Street environment created on Endeavour Road. The steep sloping terrain (from east to west) poses the greatest challenge for connectivity and activation between the Endeavour and Retail Districts. Initial design thinking addresses this through the creation of an extended upper plaza, mid-level plaza and street level (Endeavour Road) plaza. These are connected with generous stairs and vertical transport elements (escalator and lifts) to enable seamless movement.

This east west connection will be framed by community and shop retail uses at the street level plaza and food and beverage and shop uses on mid-upper levels.

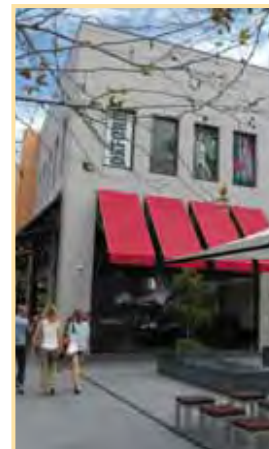
As illustrated in Figure 58, the indicative development plan provides an opportunity for a clear and direct connection between the entry and activity in the shopping centre and the complimentary uses and activity occurring along Endeavour Road. Coupled with the Endeavour Road as a Main Street, these 2 clear axes of movement create a legible and simple to understand precinct that intersect at the heart - an active and generous urban plaza.

## Land Use and Activation

The proposal delivers a focused concentration of retail/commercial/community activity along the east-west plaza connection and along Endeavour Road. The activation of frontages seeks to overcome the terrain differential, drawing activity through the district and towards the Main Street environment. Entries to built form are logically located to support this activation and in order to provide clear address for legibility.

The district fronts onto the busy Whitfords Avenue enabling the location of uses that will derive the greatest value from this exposure. In this regard, it is envisaged that larger format retail, commercial and bulky goods uses will be predominantly located along this frontage. The relocation of the Bunnings bulky goods centre closer to the retail core Centre enables the creation of a residential led precinct to the west of Endeavour Road, which will take advantage of amenity and convenience afforded by the adjacent St Marks Anglican Community School and proposed open space. The latter-mentioned open space has been centrally located so as to serve the future residential catchment and provide an additional pedestrian connection through between St Marks Road and Endeavour Road.

Residential development in the district will primarily take the form of apartments (3-7 storeys) with more medium density, lower scale typologies such as terraces, townhouses and maisonettes anticipated for those sites adjacent St Marks Anglican Community School.



## Retail District

The Retail District will provide residents and visitors with convenient access to a mix of retail, office, leisure, entertainment, recreation and community facilities within both new and renovated buildings that respond to current consumer and community demands and desires. The district will be characterised as a destination that is vibrant and accessible with a unique character and sense of place, evolving from the retail activity of the centre. Multi-level connections that address the districts existing topography will maximise accessibility.

New buildings to the eastern end of the shopping centre will provide an enhanced address to Marmion Avenue as well as attractive frontages to both Whitfords Avenue and Banks Avenue. Development in the vicinity of the future Whitford Avenue bus stop will provide strong visual and pedestrian connection to this key piece of public transport infrastructure. Buildings will be similar in height to existing whilst providing for deck car parking and 2 floor levels (20.0m) of retail activity. A new north-south pedestrian connection (Marmion Promenade) will add to this sense of arrival and address, whilst the southern edge of the retail buildings will respond to the character of the Banks District.

To the west end, the retail district will interface with the Endeavour District. There will be a pedestrian mall connection leading to Endeavour Community Plaza. The large format retail buildings will be sleeved by more finer grain buildings that respond to the street on the western edge of the Retail District by a mix of building types (shops, office, retail, residential), fronting Endeavour Road in the Endeavour District.



Figure 59. Retail District Location Map



## Whitfords Avenue

The interface between the Retail District and Whitfords Avenue will provide a pedestrian friendly environment through the creation of legible and convenient pedestrian routes and prominent entrances between the centre and the bus stop. Buildings on the southern side of Whitfords Avenue will be designed in a manner that address the street; connecting visually and physically to pedestrian routes linking the centre to the bus stop and destinations beyond. The ultimate development of this frontage will occur over 2 stages:

- Stage 1 (Interim 0-5 years) – Consolidated Bus Stop (Refer Figure 61):  
This stage will involve the consolidation of the existing bus stops along Whitfords Avenue supported by prominent pedestrian entrances to the Retail District providing a sense of arrival to the centre.
- Stage 2 (Ultimate 10 years +) Dedicated Bus Stop or Bus Rapid Transit (Refer Figure 62):  
The ultimate design outcome is to achieve an integrated bus stop on Whitfords Avenue with dedicated bus lanes providing a clear separation from passenger vehicles. Buildings within the Retail District will be built up to the street reinforcing the relationship with pedestrians. The built form will be supported by prominent pedestrian entrances and pedestrian routes to and from the bus stop.



- LEGEND
- \* Pedestrian Entrance to Shopping Centre
  - ← - - - → Pedestrian Route From Bus Stop
  - Ⓟ Bus Stop Location

Figure 60. Whitfords Avenue Perspective (existing)



- LEGEND
- \* Pedestrian Entrance to Shopping Centre
  - ← - - - → Pedestrian Route From Bus Stop
  - Ⓟ Bus Stop Location

Figure 61. Whitfords Avenue Perspective (interim)



- LEGEND
- \* Pedestrian Entrance to Shopping Centre
  - ← - - - → Pedestrian Route From Bus Stop
  - Ⓟ Bus Stop Location

Figure 62. Whitfords Avenue Perspective (ultimate)

## Banks District

The Banks District will be characterised by transition in both activity and built form. A range of uses including residential and offices will be encouraged. Banks Avenue will become more urban in character with buildings up to 3 storeys fronting the street on both sides. On the south side, adjacent developments will potentially have shared access to rear parking areas. Care will be taken to retain the amenity of residential properties to the south.



Figure 63. Banks District Location Map



## Education and Civic District

The Education and Civic District will generally be characterised by campus style buildings set in landscape. The existing St Marks Anglican Community School is an important community facility that would benefit from associated compatible activities. There is potential for additional community facilities to be located or co-located in this district, to provide diversity of activity in proximity to Endeavour Road.



Figure 64. Education and Civic District location map



## 2.6.4 INDICATIVE DEVELOPMENT PLAN

The Indicative Development Plan for Whitford Activity Centre illustrates one scenario for future development that is consistent with the vision and objectives for the centre (refer to Figure 65). Specifically, the plan illustrates the full expansion of the shopping centre with new internal malls and retail outlets as well as a refreshed exterior appearance, that reflects the transition of Whitford from a suburban shopping centre to an urban activity centre with increased intensity and diversity of activity and urban form.

The shopping centre will have improved street interface and connections to all surrounding streets to suit anticipated pedestrian footfall. Two community nodes are proposed to enliven the 2 ends of the centre. Marmion Promenade will be developed at the east end on Westfield land in the retail district. It will give the centre a new character and address on Marmion Avenue and Whitfords Avenue. Endeavour Community Plaza, to the west end of the centre, will be connected to the shopping centre via a series of activated plazas at ground and upper level. This space will be the focal point of the mixed use Endeavour District where the majority of new housing will be located in future years.

The plan illustrates the development of approximately 639 dwellings in the Endeavour district. These dwellings will be predominantly apartments above podiums for parking. Where buildings front Endeavour Road, the ground level will be predominantly active commercial uses, particularly around the square which will become a lively evening destination. The housing will be provided in a range of building types from apartments to terrace housing, with building heights of 3 to 4 storeys encouraged throughout the district and up to 5 to 7 storeys in landmark locations.

The Banks District is indicated as a transitional mixed-use area between the evolving urban activity centre and the suburban setting to the south. The Indicative Development Plan reflects that the area will evolve over a longer period of time, given the age and value of existing housing stock.

Residential Yields for the Endeavour district indicated on the plan are as follows:

Apartments	- 582 dwellings.
Walk-up Apartments	- 66 dwellings.
Terraces	- 91 dwellings.
Total	- 739 dwellings.



Figure 65. Indicative Development Plan

## 2.7 IMPLEMENTATION

### Statutory Approval Process

The WACSP is required to be considered and adopted by the City of Joondalup in accordance with the provisions of Section 9 of the Scheme. It is important to note that pursuant to clause 9.1 of the Scheme, the City of Joondalup requested the preparation of the WACSP at its 18 September 2012 Ordinary Council Meeting.

As part of this process, following adoption by the City, the WACSP is then required to be determined by the WAPC (as required by section 6.4.1 of SPP 4.2). Amendments to the WACSP thereafter initial approval will be required to be considered and determined in accordance with clause 9.7 of the Scheme.

Subdivision and development within the WACSP area, is to be determined in accordance with (but not limited) the requirements of the approved Structure Plan and the Scheme.

### Development Staging

This Structure Plan has been prepared to assist and guide development of the centre for the next 10 years (2026) to align with Directions 2031.

The Retail District identified within the Structure Plan is composed predominantly of the large single land ownership of Westfield Whitford City shopping centre. There is substantial investment in the built form of the shopping centre which undergoes revitalisation on a regular basis. This gives Whitford Activity Centre a significant opportunity to redevelop from the core outward, in well planned stages that are co-ordinated and sustainable.

Staging of development at Whitford Activity Centre will be dependent on market driven demand for services and housing. The current lag in supply of retail floorspace in the North-West Sub-Region created by the now removed floorspace caps, provides an opportunity for a major redevelopment in the very short term. This will bring benefits of a revitalised shopping centre that will act as a catalyst for further investment in the area and will be designed in accordance with the principles set out in the Structure Plan. Furthermore this expansion and revitalization will establish a built form character precedent for the broader Whitford Activity Centre.

Some residential development will be provided by the shopping centre owner at a rate consistent with that outlined in Section 1.8 of Part 1. Other residential and non-retail development elsewhere will be guided by market demand and utility capacity.

Further, road and infrastructure upgrades shall be undertaken either concurrently or prior to development and/or subdivision as outlined in Section 1.12 of Part 1.

### Ongoing Initiatives

To ensure the successful implementation of the project, it is necessary that the commitment to undertake works and ongoing responsibilities that will be carried out by the stakeholders are defined clearly outlining those requirements and initiatives.

ITEM	ACTION	RESPONSIBILITIES
Statutory and Strategic Planning Framework		
WACSP Approval	WACSP to be adopted by City of Joondalup and approved by the WAPC in accordance with the Scheme and SPP 4.2	City of Joondalup and the WAPC.
Management Plans and Strategies		
Parking Management Plan	Preparation of a Parking Management Plan or Strategy as part of any major development application.	Shopping Centre owner and/or other landowners as required.
Urban Water Management Plans	Preparation of Urban Water Management Plans for major development or development areas as required.	Shopping Centre owner and/or other landowners as required.
Traffic Impact Assessment	Preparation of traffic impact assessments in support of Development and Subdivision.	Shopping Centre owner and/or other landowners as required.
Other		
Community Facilities	Identification and delivery of a new community facilities building within the WACSP	City of Joondalup.

Table 3. Ongoing initiatives

## 2.8 APPENDICES

### Appendix A - Schedule of Existing Lots

LOT	PLAN	AREA	DESCRIPTOR	ADDRESS	ZONE
501	P11792	19.781ha	Main Westfield lot	470 Whitfords Avenue	Commercial
503	D56725	8001m <sup>2</sup>	Library, senior citizens centre etc.	Lot 503 Banks Avenue	Civic and Cultural
9089	P183920	8797m <sup>2</sup>	Open space next to community centre near intersection of Marmion Avenue and Banks Avenue	Lot 9089 Banks Avenue	Parks and Recreation (local reserve)
6	D71688	2.8732ha	Bunning's and showroom lot	37 Endeavour Road	Business
14284	P28236	8594m <sup>2</sup>	Commercial/child care uses and Department of Child Protection etc.	21 Endeavour Road	Civic and Cultural
181	P28236	10.718ha	St Marks Anglican Community School	20 St Marks Drive	Private Clubs/ Recreation
278	P9878	697m <sup>2</sup>	Residential Property on Venus Way (corner of Endeavour Road)	1 Venus Way	Residential 20
279	P9878	690m <sup>2</sup>	Residential Property on Endeavour Road (middle)	22 Endeavour Road	Residential 20
280	P9878	697m <sup>2</sup>	Residential Property on Endeavour Road (At corner with Banks Avenue)	24 Endeavour Road	Residential 20
281	P9878	684m <sup>2</sup>	Residential Property on Banks Avenue (between Banks Avenue and Venus Way)	62 Banks Avenue	Residential 20
282	P9878	684m <sup>2</sup>	Residential Property on Banks Avenue (between Banks Avenue and Venus Way)	60 Banks Avenue	Residential 20
283	P9878	684m <sup>2</sup>	Residential Property on Banks Avenue (between Banks Avenue and Venus Way)	58 Banks Avenue	Residential 20
272	P9878	697m <sup>2</sup>	Residential Property on Venus Way (corner of Banks Av)	23 Venus Way	Residential 20
273	P9878	690m <sup>2</sup>	Residential Property on Venus Way	21 Venus Way	Residential 20
226	P9878	909m <sup>2</sup>	Residential property on Banks Avenue (corner Venus Way)	54 Banks Avenue	Residential 20
227	P9878	684m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	54 Banks Avenue	Residential 20

227	P9878	684m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	52 Banks Avenue	Residential 20
228	P9878	683m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	50 Banks Avenue	Residential 20
229	P9878	683m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	48 Banks Avenue	Residential 20
230	P9878	683m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	46 Banks Avenue	Residential 20
231	P9878	683m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	46 Banks Avenue	Residential 20
232	P9878	684m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	42 Banks Avenue	Residential 20
233	P9881	684m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	40 Banks Avenue	Residential 20
234	P9881	683m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	38 Banks Avenue	Residential 20
235	P9881	683m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	36 Banks Avenue	Residential 20
236	P9881	683m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	34 Banks Avenue	Residential 20
237	P9881	683m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	32 Banks Avenue	Residential 20
238	P9881	683m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	30 Banks Avenue	Residential 20
239	P9881	683m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	28 Banks Avenue	Residential 20
240	P9881	683m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	26 Banks Avenue	Residential 20
241	P9881	715m <sup>2</sup>	Residential Property on Banks Avenue (between Venus Way and Green Road)	24 Banks Avenue	Residential 20
242	P9881	714m <sup>2</sup>	Physiotherapy clinic on Banks Avenue (between Venus Way and Green Road)	22 Banks Avenue	Residential 20 A16 (Medical Centre)
243	P9881	949m <sup>2</sup>	Dental Clinic on Banks Avenue (at corner of Green Road)	20 Banks Avenue	Residential 20 A15 (Medical Centre)

244	P9881	683m <sup>2</sup>	Commercial Property on Green Road	31 Green Road	Residential 20 A17 (Medical Centre)
245	P9881	968m <sup>2</sup>	Medical Centre on Green Road 29 Green Road	29 Green Road	Residential 20 A18 (Medical Centre)
3	P9880	682m <sup>2</sup>	Residential Property on Solander Road (at corner of Banks Avenue)	48 Solander Road	Residential 20
4	P9880	683m <sup>2</sup>	Residential Property on Banks Avenue (between Solander Road and Marmion Avenue)	6 Banks Avenue	Residential 20
5	P9880	683m <sup>2</sup>	Residential Property on Banks Avenue (between Solander Road and Marmion Avenue)	4 Banks Avenue	Residential 20
6	P9880	1246m <sup>2</sup>	Residential Property on Banks Avenue (at corner of Marmion Avenue)	2 Banks Avenue	Residential 20
7	P9880	955m <sup>2</sup>	Residential Property on Solander Road (at corner of Marmion Avenue)	22 Monkhouse Way	Residential 20
8	P9880	687m <sup>2</sup>	Residential Property on Monkhouse Way (between Marmion Avenue and Solander Road)	24 Monkhouse Way	Residential 20
9	P9880	684m <sup>2</sup>	Residential Property on Monkhouse Way (between Marmion Avenue and Solander Road)	26 Monkhouse Way	Residential 20
10	P9880	688m <sup>2</sup>	Residential Property on Monkhouse Way (between Marmion Avenue and Solander Road)	28 Monkhouse Way	Residential 20
11	P9880	683m <sup>2</sup>	Residential Property on Solander Road (at corner with Monkhouse Way)	44 Solander Road	Residential 20
12	P9880	684m <sup>2</sup>	Residential Property on Solander Road (between Monkhouse Way and Banks Avenue)	46 Solander Road	Residential 20

## Appendix B - List of accompanying documents

- 1 - Retail Sustainability Assessment, Whitford Activity Centre Expansion (October 2014) Urbis
- 2 - Whitford City Shopping Centre Servicing Report (October 2012) Cardno
- 3 - Whitford Activity Centre Structure Plan Transport Report (March 2015) Cardno
- 4 - Whitfords Shopping Centre Urban Water Balance Assessment (March 2015) Essential Environment



# WHITFORD ACTIVITY CENTRE

STRUCTURE PLAN - MAY 2015